













**Plato and Aristotle**

Raphael

A B C  
*of*  
SCHOLASTIC PHILOSOPHY

A. C. COTTER, S.J.

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## Preface

This book is only partially new. It is an expansion of *Logic and Epistemology*, which was first printed in 1930 and has since been reprinted or revised almost each year. The expansion consists in the addition of an *Introduction to Philosophy* and of *Ontology*. It had been my original intention to add both parts but other more urgent work stood in the way until now.

As in the preface to the former work, I wish to stress a few considerations that have guided me in the composition of this. Some are more general, others are applicable to one or the other of the branches of philosophy here offered.

1. Brevity, plain and direct presentation, close-knit reasoning and logical coherence—these are the aims which have been kept in view throughout.

Nothing was further from my mind than to write exhaustive treatises. For the beginner outlines are far preferable. Hence questions disputed among Scholastics were eliminated for the most part. Even those points which seemed essential for an A B C, were not developed fully. A *text book* is not meant to supplant the teacher. Rather, the earnest teacher may be relied on to clothe the bare skeleton of his manual with the flesh of his own wider knowledge, and to quicken the whole with the warm blood of his own personality.

2. The *scholastic* system and method were chosen for presentation. Some 30 years of teaching philosophy and theology have convinced me of its pedagogical worth. There is no other philosophical system that can rival the scholastic in common sense and definiteness. There is no other philosophical method that even approaches the scholastic in sound reasoning and logical force. To the beginner, who is not yet capable of grappling with superficial systems and subtle methods, such a philosophy is indispensable.

Catholics in particular who would spurn the method and principles of scholastic philosophy would do so at their peril. There is indeed a clear distinction between Catholic faith and scholastic philosophy; the former can exist without the latter. But only scholastic philosophy is in complete harmony with Catholic faith; it alone has been approved as such by the magisterium of the Catholic Church, and is prescribed for those who would advance to the study of Catholic theology.

3. The *Introduction to Philosophy* differs considerably from those current today. It is not a summary of philosophical problems, which the beginner cannot digest and which may engender in him a spirit of skepticism. For a like reason I have not given an outline of the history of philosophy with the same problems arranged by periods. Instead, I confined myself to a few important data on the principal philosophers of past ages, and I tried to sketch the intellectual equipment with which the student is supposed to begin philosophy.

4. In *Logic*, the simple syllogism has been made the unifying theme as well as the ultimate aim. On the other hand, the sentence or proposition has been made the starting-point of all explanations; the reason for this is the well-known axiom that all truths are expressed by us in sentence-form.

But psychological tidbits, so much in vogue today, have been wholly discarded. Logic differs essentially from psychology. The former deals primarily with the objective aspect of our intellectual processes, the latter with the subjective. No doubt, both aspects are present in all cognition and they may aid each other, but they must not be confused; else we have psychologism, the bane of present-day philosophy.

5. Nor—let it be said even more emphatically—is *Epistemology* a branch of psychology. Epistemology investigates the final cause of our cognitive faculties, psychology the other three causes (formal, material, efficient). Again, the four causes are present in all cognition, but Epistemology restricts itself to the purpose of cognition.

At the same time, there is no denying that a knowledge of what is today known as “experimental psychology” would be a decided advantage for the student of Epistemology; without it the force of many difficulties urged against our theses will elude him. But as a matter of fact, this science is either neglected or studied too late. To meet this situation, further reading matter, either on a whole thesis or on some particular points, has been added, as well as a bibliography on recent literature of the subject. The author hopes to have made the book thereby more serviceable for actual use in the class room.

6. In *Ontology*, it has been my endeavor to eliminate the Latin flavor and to substitute for it readable and plain English.

Still, to insure fidelity to scholastic thought, I have often inserted Latin terms, definitions and axioms. After all, Latin was the language of scholastic philosophy until a very recent date, and English terminology is still too fluid to serve as a recognized medium.<sup>1</sup> I also made it a point not to vary my own vocabulary, retaining throughout the terms, phrases, definitions etc. once adopted. This may result in some monotony but it ensures consistency and intelligibility.

Perhaps nowhere more than in *Ontology* is it advisable that the beginner stick to his text. Different authors differ in thought or may use different terminologies even when they agree in thought. To the beginner this is a source of

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<sup>1</sup>This ambiguity and fluidity of English philosophical terminology was adverted to by John St. Mill (*System of Logic*, Bk. 1 ch. 3 n. 2).

confusion. It is for this reason that I have supplied no additional reading matter in this section. Other authors may profitably be consulted after the student has mastered the text.

Special attention has been given to the *bibliography* and the *alphabetical index*. The former lists practically all English Catholic books on the subject, including both earliest and latest publications. The latter has been made very detailed so as to insure the utmost of usefulness.

A. C. COTTER, S.J.

Weston, Dec. 14, 1945

# Table of Contents

## INTRODUCTION TO PHILOSOPHY

	PAGE
A. Philosophy .....	1
B. Scholastic Philosophy .....	21
C. Beginning of Philosophy .....	39

## LOGIC

<i>Introduction</i> .....	47
<i>Part 1. The Term</i> .....	50
I. Ideas .....	51
II. Terms .....	55
<i>Part 2. The Proposition</i> .....	60
<i>Chap. 1. The Categorical Proposition</i> .....	62
I. Definition .....	62
II. Divisions .....	64
<i>Chap. 2. The Hypothetical Proposition</i> .....	67
I. Definition .....	67
II. Divisions .....	67
<i>Part 3. Reasoning</i> .....	69
<i>Chap. 1. Immediate Inference</i> .....	70
<i>Chap. 2. The Syllogism</i> .....	75
<i>Chap. 3. Induction</i> .....	86
<i>Chap. 4. The Cumulative Argument</i> .....	91
<i>Chap. 5. Statistics</i> .....	93
<i>Part 4. Method</i> .....	95
<i>Chap. 1. The System</i> .....	96
<i>Chap. 2. Systematic Operations of the Mind</i> ....	101
<i>App. 1. Fallacies</i> .....	111
<i>App. 2. Exercises</i> .....	114



# EPISTEMOLOGY

	PAGE
<i>Introduction</i> .....	127
<i>Preliminary Notions</i> .....	129
<i>Part 1. Existence of Certitude</i> .....	133
<i>Part 2. Sources of Certitude</i> .....	146
<i>Chap. 1. The Faculties in General</i> .....	147
<i>Chap. 2. The Single Faculties</i> .....	155
I. Consciousness .....	155
II. The External Senses .....	165
III. Intellect .....	182
IV. Reason .....	205
V. Human Testimony .....	215
<i>Part 3. Nature of Certitude</i> .....	233
<i>Chap. 1. Ultimate Motive of Formal Certitude</i> ..	234
<i>Chap. 2. Divisions of Formal Certitude</i> .....	249
<i>Chap. 3. Opinion and Probability</i> .....	267
<i>Part 4. Truth and Error</i> .....	269
<i>Chap. 1. Definitions</i> .....	269
<i>Chap. 2. Possession of Truth</i> .....	273
<i>Chap. 3. Criterion of Truth</i> .....	276
<i>Chap. 4. Degrees of Truth and Error</i> .....	279
<i>Chap. 5. Causes of Error</i> .....	280

# ONTOLOGY

	PAGE
<i>Introduction</i> .....	293
 <i>Part 1. Being</i> .....	 298
<i>Chap. 1. Being as Such</i> .....	299
<i>Chap. 2. Our Concept of Being</i> .....	308
<i>Chap. 3. Possibles</i> .....	318
<i>Chap. 4. Change</i> .....	322
<i>Chap. 5. Act and Potency</i> .....	327
 <i>Part 2. Attributes of Being</i> .....	 332
<i>Chap. 1. Unity</i> .....	333
<i>Chap. 2. Truth</i> .....	344
<i>Chap. 3. Goodness</i> .....	347
<i>Chap. 4. Order</i> .....	357
 <i>Part 3. Categories of Being</i> .....	 359
<i>Chap. 1. Substance and Accident</i> .....	362
<i>Chap. 2. Notions Related to Substance</i> .....	377
<i>Chap. 3. Relation</i> .....	385
 <i>Part 4. Causes of Being</i> .....	 390
<i>Chap. 1. Notions and Principles</i> .....	391
<i>Chap. 2. Efficient Cause</i> .....	397
<i>Chap. 3. Final Cause</i> .....	406
 <i>Bibliography</i> .....	 412
 <i>Alphabetical Index</i> .....	 418



INTRODUCTION  
TO  
PHILOSOPHY

In this Introduction we shall discuss first philosophy in general, then scholastic philosophy, and finally the initial attitude of the philosopher.

## A. PHILOSOPHY

An introduction to philosophy would seem to call for an answer to two questions: What is philosophy? And who were the great philosophers of the past?

### I. Nature of Philosophy

1. Etymologically, philosophy (from *φίλος* and *σοφία*) means "*love of wisdom*." Hence the philosopher by his very name, is a lover of wisdom.

The name is said to be due to Pythagoras (6th cent. B.C.). Others before him had called themselves simply "*wise men*" (*σοφοί*); his modesty bade him be satisfied with the less pretentious name of "*lover of wisdom*."

2. At the outset, a distinction must be made between speculative philosophy and what is often referred to as ideology or philosophy of life. Though there is some connection between them, yet accuracy demands that they be kept apart.

A *philosophy of life* may be defined as a set of ultimate principles, practical rather than speculative, which a man chooses as the supreme guides of his life, and to which he has resolved to adhere unswervingly through all the vicissitudes of life. To deserve the name of philosophy of life, the principles themselves must be clear and sure, and the one who claims them as his guides, must habitually live up to them. But it does not matter how he came by them, whether by personal reflection, from teachers or through revelation. There are, of course, degrees in the firmness with which a philosophy of life is adhered to, but unless a man is fortified by one, he is like a reed that is shaken by every passing wind.

In this book, however, philosophy means *speculative* philosophy.

### 1. DEFINITION

Many definitions of speculative philosophy have been put forward. The best is undoubtedly the one commonly accepted by Scholastics: "*Philosophy is the natural knowledge of all things through their last causes.*"

1. This definition comprises four distinct elements.

a. Philosophy is *knowledge*. This word must be taken to mean not a mere knowledge of facts, valuable and fundamental though this be; it rather means what the Scholastics called *scientia*, that is, systematized knowledge, so that we clearly understand the relations between things, especially knowledge through causes, understanding why things are and must be so.

The word "*cause*," however, must be taken in a very wide sense. It may refer to extrinsic or intrinsic causes, to concrete (the usual 4 causes as enumerated by Aristotle) or abstract causes (i.e. universal concepts). Causes are the reasons and explanations of things.

b. Philosophy is knowledge of *all things*. This is called the material object of philosophy.

Philosophy then deals first of all with reality, "*things*." Philosophy does not chase after the pot of gold at the rainbow's end, but takes its stand on the solid ground of reality. It seeks to understand why things are as they are and why they must be as they are.

Moreover, philosophy is all-embracing; it seeks to understand *all* things, all reality.. The height of ambition. But this must not be misunderstood. God alone knows all things; God alone can know all things. Nor need the philosopher be a walking encyclopedia. But two qualifications mark the true philosopher: (a) his actual knowledge covers at least the foundations and outlines of the various fields of human

knowledge; (b) his outlook is universal; he does not shut his eyes wilfully to any particular class of things.

c. Philosophy reduces all things to their *last causes*. This is called the formal object of philosophy.

To do this, it is incumbent on the philosopher to study first of all these last causes themselves: their existence, their nature, their attributes. Some would even define philosophy as merely "knowledge of the last causes." Still this cannot be its adequate aim. After having studied the last causes, the true philosopher will return to his material object, viz. all reality, trying to understand and appreciate it in the light of the last causes. He wishes to know why all things are so and must be so owing to their connection with their last causes.

d. Also Catholic faith teaches the last causes of things and the relations of all things to them. It teaches us that God made all things, that He made them as imitations of His own goodness, that He made them ultimately for His own glory. Yet faith differs from philosophy. Faith, aided by grace, believes these truths, because God has directly revealed them; philosophy, on the contrary, while actually arriving at the same truths, relies on man's natural powers and insight.

To bring out this difference, the Scholastics added the adjective "natural". Philosophy limits itself to knowledge which can be had *by our natural powers*, that is, without the special aid of God's revelation. Whatever can be known only through revelation (e.g. Incarnation, bodily resurrection), is excluded.

2. Though pondering the definition is, generally speaking, the best approach to any subject, yet because of the peculiar nature of philosophy, it may be well for the beginner to look at it from another angle. Let us compare philosophy



with other kinds of knowledge with which all are today familiar.

If we include under the term "knowledge" whatever we know, then there are evidently various kinds.

We all know hundreds and thousands of *facts* (external and internal, past and present, important and irrelevant, pleasant and unpleasant); we also know some *general* truths; e.g. that stones fall if unsupported in air, that spring follows winter, that fish die out of water, and so on. Of some of these things we are sure, of others not so sure. This is *everyday* knowledge. There is nothing startling about it except when it is entirely new and unexpected. But this kind of knowledge, though making up the bulk of what we know, is neither science nor philosophy.

*Science* goes a step beyond. It may apply an exact method to the observation of the same and other things. It may count and measure and weigh to the last degree of accuracy. Or it may reduce the facts observed to laws; then it will see in the falling of the stone a particular case of universal attraction; it will bring the recurring seasons under the laws of astronomy; it will recognize the need of special respiration for every kind of organic life. Or finally, science may study the laws themselves, proving them to be laws and reducing them to their causes.

Clearly this is progress over the common or garden variety of knowledge mentioned in the first place. Not that everyday knowledge has been denied or changed; but it has gained in depth.

3. Now there are many sciences, each with its own field and method. We have physics and chemistry, geology and astronomy, biology and anatomy, botany and zoölogy, economics and sociology, history and anthropology, and a host of others. *Philosophy* differs from each and all.

First, philosophy is *not limited* in its outlook. Unlike the

sciences mentioned, it has for its field all reality, the whole universe, bodies and spirits, time and eternity. It even reflects on knowledge itself to determine its value, limits and method. To restrict the material object of philosophy to the bodily world or to man or to the possibles (as some did in the past), would betray intellectual myopia.

Nor is philosophy the sum-total of the sciences. For it puts and answers questions which *transcend* the purview of each and all. To take but one example. The owner of a hothouse may wonder why his plants die when deprived of air. He will find the answer in the necessity of respiration. Plants breathe, and if they cannot breathe air, they will die. He may ask further why plants must breathe, and he will find the reason in the laws of organic life. The philosopher discusses another set of problems: What are the *last causes* of all plants, of all organic life, of life in general, of all beings; what are their ultimate *constituents*; how did they first *come into being*; what is their ultimate *purpose*? If he can solve these problems, he can contemplate all things *sub specie aeternitatis*. He will deny none of the truths discovered by the various sciences, but he will view their findings in the light of first principles. This is the "philosophical mind."

## 2. DIVISION

Philosophy is generally divided into three principal parts: Logic, Ethics, Metaphysics. *Logic* deals with the activities of our cognitive faculties, chiefly of the intellect, and their ultimate purpose. *Ethics* considers the activities and ultimate purpose of our appetitive faculties, chiefly of the will. *Metaphysics* has for its material object things as they are in themselves, including our faculties.

The following is the division fairly common nowadays: (1) Logic and Epistemology. (2) General Metaphysics or Ontology. (3) Special Metaphysics, comprising Cosmology, Psychology and Natural Theology. (4) Ethics.

## II. Great Philosophers

Philosophy did not at first lead an independent existence. With the earliest philosophers of the Far East it flowed from religion and remained a by-product of religious systems (Brahmanism, Buddhism, Mazdaism, Lao-tse's philosophy). The same is true of Jews and Egyptians.<sup>1</sup>

It was in Greece that philosophy became distinct from religion. On the other hand, when Pythagoras introduced the term "philosopher", there existed no clear division of the vast realm of profane knowledge; philosophy then comprised all learning except technical knowledge and the practical arts (like architecture). Even so, the philosophers were primarily practical men, men of action: statesmen, doctors, legislators etc.

According to Aristotle, philosophy properly so called began with *Thales* of Miletus (6th cent. B.C.). The earliest Greek philosophers were struck by two facts of this sensible world: the universality of change and the apparent identity under the most varied changes. They therefore looked for an ultimate substratum (material cause) of all sensible things and found it in one of the four elements then recognized: water (*Thales*), air (*Anaximenes*), fire (*Heraclitus*), earth (*Empedocles*). *Anaximander* called the ultimate substratum the "boundless". *Anaxagoras* (500-428 B.C.) advanced the discussion a step further. Explaining things by their common material substratum was not enough; a complete explanation must also tell us what agent produced the change and why (efficient and final cause). In following up this idea he arrived at the concept of a separate "Intelligence", to which the ordering of the universe is due.

Owing to the disagreements among these early philosophers, there arose, in the latter half of the fifth century B.C.,

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<sup>1</sup>Cf. *Maritain*, Introd. p. 23-45.

the school of the *Sophists*. Truth meant nothing to them. Like shyster lawyers, they were ready, for a consideration, to plead for or against any cause; nor did it matter to them whether their arguments were good or bad as long as they won the case. Not without talent, the sophists were men without conviction, eager for a reputation and material gain. The result was *relativism*, as expressed by Protagoras: "Man is the measure of all things", that is, truth is what appears true to the individual.

It was their pernicious influence on the youth of Athens that Socrates set himself to exorcise.

*Socrates* (469-399 B.C.), a native of Athens, was at first a sculptor like his father, but later took up the study of philosophy and devoted himself to the education of youth. His life was without blemish, his teaching exalted; but he was accused of atheism and condemned to drink the cup of hemlock. Socrates left no writings; what we know about him, we learn from Xenophon ("Memorabilia"),



Plato and Aristotle. While his philosophy falls rather under the heading of philosophy of life, the main aim of his method ("Socratic method" or "Socratic induction") was to procure clear ideas on the subject: What is good? What is virtue?<sup>1</sup> The Delphic Oracle proclaimed him as the wisest of men, and his contemporaries thought him inspired. He himself often spoke of his "genius" (*δαίμόνιον*), whose voice guided him at important turning-points in his life. While earlier philosophers got lost in speculations about the universe, he took for his motto the Delphic advice "know thyself".

<sup>1</sup>Cf. *Cath. Enc.* s. v. Socrates.



*Plato* (427-347 B.C.) also was a native of Athens and of noble birth. He first cultivated the arts, especially poetry, but then frequented Socrates' school. After the teacher's death, he went abroad to acquaint himself with other philosophers and philosophies. He was imprisoned in Sicily, but freed by his friends and brought back to Athens. There he opened a school in the gardens of a certain Herus Academus (hence "Academia") and taught philosophy till his death.

A number of books, dialogs and epistles bear his name; while there are doubts about some of them, a great number are undoubtedly genuine. They were written at various periods of his life, and Plato more than once changed or modified his views. The pivot of his philosophy is the *idea*, the universal concept, which he studied in itself as well as in its embodiment in nature and practical life.<sup>1</sup>

*Aristotle* (384-322 B.C.) was born at Stagira in Thrace of a noble and wealthy family. He was Plato's pupil for 20 years, but at the same time studied the natural sciences privately. He was tutor of Alexander the Great for eight years and then taught philosophy at Athens. In distinction to the "Academia", his school was known as the Lyceum, and because both teachers and pupils walked up and down during the lectures, his was called the peripatetic school. When after Alexander's death (323) he was accused of atheism, he fled, lest, so the story goes, the Athenians should commit the same crime against him as against Socrates. He died at Chalcis.

<sup>1</sup>Cf. *Cath. Enc. s. v. Plato and Platonism*; *R. Guardini, The Death of Socrates* (Sheed and Ward 1948).

Aristotle wrote on all parts of philosophy, which, however, he did not distinguish from what are now called the sciences. His division is threefold: theoretical philosophy (comprising physics, mathematics and metaphysics), practical philosophy (comprising logic, ethics, economics and politics), and poetics or the liberal arts.<sup>1</sup>

Plato and Aristotle were undoubtedly the greatest minds of Greek antiquity, and their influence on human thought has perdured through the centuries. Plato the idealist is often contrasted to Aristotle the realist, but the opposition must not be exaggerated.<sup>2</sup>

*Plotinus* (204-270 A.D.) was an Egyptian by birth. He studied philosophy under Ammonius, who had become a Christian, but had returned again to paganism and taught at Alexandria. Plotinus opened a school of his own at Rome and taught there for 25 years. The school acquired such fame that pupils flocked to it from all over the Roman empire. Plotinus did not begin to write on philosophy until he was 50. His pupil Porphyry gathered his philosophical writings and published them under the title "Enneads" in six books, each of which has nine chapters.

Plotinus' philosophy, like that of his teacher, is known as *Neo-Platonism*, a systematic combination of Plato's and Aristotle's philosophies. He and Porphyry (233-304) were the bitterest enemies of Christianity.<sup>3</sup>



<sup>1</sup>Cf. *Cath. Enc.* s. v. Aristotle.

<sup>2</sup>See frontispiece.

<sup>3</sup>Cf. *Cath. Enc.* s. v. Neo-Platonism; *B. Switalski*, Plotinus and the Ethics of St. Augustine (N. Y. 1946).

*St. Augustine* (354-430) was born at Tagaste in North Africa, his father being a pagan, his mother, St. Monica, a Christian. He made his studies at Carthage and then taught rhetoric there, at Rome and at Milan in Italy. At Carthage, a deep yearning for wisdom led him to join the Manicheans; further study made of him a skeptic; but the sermons of St. Ambrose at Milan opened his eyes to the truth of Christianity. Baptized in 387, he resigned his chair of rhetoric to devote himself wholly to the defence of Christianity. He was ordained a priest at Hippo in Africa, and when the bishop of that place died (395), was chosen as his successor by universal acclaim. As bishop of Hippo he worked with incredible zeal to root out heresy, to elucidate the Catholic faith, to preserve the purity of Christian morals.

St. Augustine was undoubtedly one of the greatest minds with which divine Providence has blessed mankind and one of the glories of the Catholic Church. His writings are voluminous, outstanding among them being *De civitate Dei*, *De Trinitate* and *Confessiones*; but there are numerous other philosophical works. Philosophy was for him not dry speculation but an occasion to rise to a more fervent love of God. His style is not always easy. While his thoughts are ever new and profound, touching on almost all problems of human life, he nowhere reduced them to a system.<sup>1</sup>

*Avicenna* or Ibn Sina (980-1037), a Persian Mohammedan, was professor of philosophy and medicine at Ispahan, Persia (now Iran). While also politically active, he wrote voluminously on metaphysics, physics, medicine and alchemy. His *Canon Medicinæ*, an 18-volume encyclopedia of medicine,

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<sup>1</sup>Cf. *Cath. Enc.* s. v. Augustine; V. J. Bourke, *Augustine's Quest of Wisdom* (Bruce 1945). K. Adam, *The Odyssey of a Soul*; Cayré I p. 612-716; J. Duffy, *St. Augustine's Autobiography* (Dublin 1947). See also the new translations in "The Fathers of the Church" (Schopp).



remained authoritative for centuries. Though not always agreeing with Aristotle, he wrote commentaries on many of his works, thereby making Mohammedanism more logical and scientific.

Avicenna was highly esteemed by the great medieval Scholastics: Albert the Great, Duns Scotus, St. Thomas.<sup>1</sup>

*Averroes* or Ibn Roshd (1126-1198) was born at Cordova, Spain. He succeeded his father as supreme judge and high-priest of the Moorish kingdom and as body physician

to the calif. A sincere Mohammedan, he was yet a passionate admirer of Aristotle, regarding him as the acme of human perfection and almost deifying him. He wrote commentaries (in Arabic) on almost all of Aristotle's works, many of which were soon translated into Latin and so became known to the medieval Scholastics.

Since Averroes denied the personal immortality of the human soul, the charge of endangering the Mohammedan religion was brought against his philosophy. He was deprived of his dignities, excommunicated and sent into exile. Though he was later allowed to return to the calif's court, the study of Greek philoso-



<sup>1</sup>Cf. *Cath. Enc.* s. v. Avicenna.



phy was banned officially in the califate. Averroes died at Morocco in Africa. Dante places him in limbo, reserved for the good and virtuous who from neglect of baptism are not permitted to enter Paradise.

According to Averroes, religion precedes philosophy—in the sense that no one can become a philosopher unless he was religious in his youth. But then he also taught that it makes no difference what religion one professes, and that religion is only for the common people, the philosopher, who rises to a purer knowledge of truth, being above religion. The Latin Averroists later developed this idea into the theory of the “double truth”.<sup>1</sup>

*René Descartes* or *Cartesius* (1596-1650), the son of a noble and truly Catholic family, was born at Lahaye (now Lahaye Descartes) in Touraine, France. He spent nine years at the Jesuit College of La Flèche, distinguishing himself in his studies and manifesting an inquisitive mind. But since he would not be satisfied with less than absolute certainty, he fell a prey to innumerable doubts. He vowed a pilgrimage to Loretto if the Blessed Virgin would aid him in getting rid of them.



Finishing the course of studies at the early age of 16, Descartes went to Paris and devoted himself to mathematics. In 1617 he enlisted in the army and fought in the first battle of the 30 Years' War at Prague. He left the army in 1624 and returned to Paris, and because by then he thought he had discovered his bomb-proof principles and infallible method, he made

<sup>1</sup>Cf. *Cath. Enc.* s.v. Averroes; *J. Brodrick*, in *Thought* 1948, p. 621-640.

the promised pilgrimage to Loretto. From 1629 to 1649 he lived in Holland, wholly given to the task of perfecting his philosophical system. It was during this time that he published his three greatest works: *Discours de la méthode* (1637), *Meditationes de prima philosophia* (1641) and *Principia philosophiae* (1644). Meanwhile his reputation as a philosopher, mathematician and physicist spread all over Europe.

In 1649 Christina, the queen of Sweden, invited him to take up the instruction of her daughter. He accepted the invitation, but succumbed to the rigors of the Swedish climate the next year.

Descartes' influence has lasted to this day, and many date modern philosophy from him. Because he stressed measure and number as the pattern of the scientific method, Meyerson called him "the legislator of modern science". But he was thereby led into two errors: he postulated mathematical evidence for everything, and he concluded that bodies are nothing more than extension and motion. J. Maritain calls him "the great French sin in modern history".<sup>1</sup>

*Baruch de Spinoza* (1632-1677) was born at Amsterdam, Holland, the scion of a Jewish family which had immigrated from Portugal. His family had meant him to become a rabbi, but he fell in with skeptics, became acquainted with Descartes' philosophy and renounced his Jewish faith. Asked by the local synagog to recant, he flatly refused and was excommunicated (1656). He now took the



<sup>1</sup>Cf. *Cath. Enc.* s. v. Descartes; *M. Mahony*, *Cartesianism* (N. Y. 1925); *J. Maritain*, *The Dream of Descartes* (N. Y. 1944); *idem*, *Three Reformers* (1928).

name of Benedictus, but would join no other religion. Forced by the magistrates to leave Amsterdam, Spinoza went to The Hague, gaining a livelihood by grinding lenses. He refused all aid from philosopher friends as also a call to the university of Heidelberg, because it would have meant hiding his true sentiments.

Spinoza died of consumption at The Hague. His best-known work is *Tractatus theologico-politicus*, which appeared in 1670 (anonymously and with a false place of origin), an attempt to explain the Bible on rationalistic principles. After his death appeared *Opera posthuma* (1677), which contain his *Ethica ordine geometrico demonstrata* and *Tractatus politicus*.<sup>1</sup>



*Leibniz*

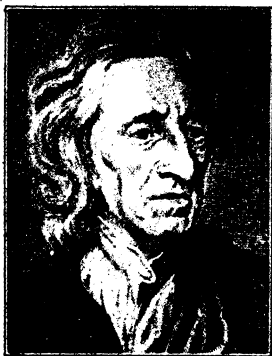
*Gottfried Wilhelm Leibniz* (1646-1716) was born at Leipzig, Germany, of Protestant parents. When only 20 years old, he received the degree of Doctor of Law *summa cum laude*. He traveled much, seeking personal contact with all the famous men of his time, and all through his life he kept up with them a correspondence on scientific and philosophical questions. In 1676 he became curator of the library at Hannover.

Almost like Aristotle, Leibniz was a universal genius, excelling as lawyer, mathematician, historian, theologian, philosopher. He discovered calculus, almost at the same time as Newton. Later he founded the academies of sciences at Berlin, Dresden, Vienna and St. Petersburg. His last years were spent in Vienna, where he

<sup>1</sup>Cf. *Cath. Enc.* s. v. Spinoza.

wrote an outline in French of his philosophy. Apart from this, his writings are fragmentary. According to him, all things are made up of *monads*, simple and immaterial beings with the power of perception and appetite.<sup>2</sup>

*Christian Wolff* (1679-1754) was born at Breslau, Germany, of Protestant parents. He taught philosophy for 50 years in various German universities. He had no new ideas, but systematized Leibniz' philosophy, toning down its too manifest aberrations (*monads*). He made a clear distinction between science and philosophy, and initiated the modern division of philosophy (except for epistemology and esthetics); he also wrote manuals on all of its parts, first in German, then in Latin, which were translated into almost all languages of Europe and introduced in Protestant as well as Catholic schools.



*John Locke* (1632-1704) was born at Wrington near Bristol, England, of Protestant parents. He studied medicine and thus became body-physician and secretary to Lord Ashley, later Earl of Shaftesbury. Locke spent some years in France and Holland. His *Essay concerning Human Understanding* (1690) marks him as one of the greatest philosophers of England. It was used as a text book in American colleges in the

<sup>2</sup>Cf. *Cath. Enc.* s. v. Leibniz.

18th century; its fundamental error was that Locke grants man no higher faculty of cognition than the senses. In 1693 he published *Some Thoughts concerning Education*, from which Rousseau took over many ideas for his *Emile*. One of Locke's peculiar ideas was that every educated man should know a trade.

Locke died at Oates in Essex.

*George Berkeley* (1685-1753) was born at Dublin, Ireland, of Anglican parents. After studies in his native city, he traveled extensively in France, Italy and North America. In 1743 he was made Anglican bishop of Cloyne, Southern Ireland, which did not prevent him from pursuing his study of theology, mathematics and the natural sciences. His best-known work, *Treatise on the Principles of Human Knowledge* (1710), was written at the early age of 25, and a sequel, *Three Dialogues between Hylas and Philonous* (1713), at the age of 28. His style is clear and easy, but going beyond Locke he claims that our sense cognition is without objective validity, and that the world of bodies around us does not exist (idealism).



*David Hume* (1711-1776) was born at Edinburgh, Scotland, of Presbyterian parents. He studied law in his native city and then went to France for a few years. In 1752 he became Keeper of the Advocates' Library at Edinburgh and wrote his famous *History of England* (1754-1761). In 1763 he accompanied Lord Hertford to Paris, and during his three-year sojourn there was received at court and in French literary circles.

He returned to Edinburgh in 1769 to take up his work as librarian. He died there.

Hume had a keen mind, but became a complete skeptic early in life. He wrote a number of philosophical works, the most famous being *An Enquiry concerning Human Understanding* (1748) and *An Enquiry concerning the Principles of Morals* (1751). But he contradicts himself from book to book. Following out Locke's philosophy, he denies the principle of causality and with it the existence of God. Yet Hume's influence has been incalculable.

*Immanuel Kant* (1724-1804) was born at Königsberg, East Prussia, the son of Protestant parents. He made his studies in his native city and then taught philosophy there until 1797 when old age forced him to resign. Though he never ventured more than a few miles from Königsberg, his reputation in philosophical circles beyond kept growing from year to year and he acted as a magnet that drew to his lectures students from all parts of Europe.

Kant at first adhered to Wolff's philosophy, but the study of Hume's works roused the skeptic in him. Of his many books on philosophy the two most famous are: *Critique of Pure Reason*



(1781) and *Critique of Practical Reason* (1788). Kant changed metaphysics into epistemology, declaring that we only know phenomena (our ideas of things), not noumena (the reality of things). Like Hume he rejected all proofs for the existence of God, and in ethics divorced the juridical order from natural law.

In spite of a brief eclipse through Hegel's ascendancy, Kant has remained *the* modern philosopher outside scholastic circles.<sup>1</sup>



*Georg Wilhelm Friedrich Hegel* (1770-1831) was born at Stuttgart in Württemberg, Germany, and brought up a strict Protestant. After graduating from Tübingen, he acted as private tutor for a few years and then went to Jena to teach philosophy. His first great work, *The Phenomenology of the Mind*, appeared in 1807. While rector of the Gymnasium at Nürn-

berg in Bavaria he published his second great work, *The Science of Logic* (3 vols. 1812-1816). In 1816 he became professor at Heidelberg, and published a third work, *Encyclopedia of Philosophical Sciences* (1817). In 1818 he went to Berlin to teach philosophy. In the midst of vigorous activity there he was carried off by the cholera.

While at Berlin, Hegel acquired international fame through his lectures and his books. His philosophy swept away all other philosophies. But his influence waned after his death, when a violent controversy sprang up among his followers as to the precise meaning of his philosophy. Hegel is the modern embodiment of philosophical idealism and rationalism, carrying their supreme maxim "*cogitari est esse*" to its last conclusions. Moreover, according to Hegel, everything is subject to the law of evolution: nothing is, everything becomes.<sup>2</sup>

<sup>1</sup>Cf. *Cath. Enc.* s. v. Kant.

<sup>2</sup>Cf. *Cath. Enc.* s. v. Hegelianism.



*August Comte* (1798-1857) was born at Montpellier in southern France, the son of good Catholic parents. While at the Ecole Polytechnique of Paris he became a freethinker and a radical. In 1826 he announced a course of lectures in Paris, which were interrupted when he became mentally deranged. Released from the insane asylum

and rescued from an attempt at suicide, he once more took up his lectures, crowning them with the first volume of his *Cours de philosophie positive* (1830). The sixth volume, the last of a heavy and monotonous series, appeared in 1842. The same year he divorced his wife. His passionate love for another woman, Clotilde de Vaux, led him (1845) to assume the role of a prophet and founder of the positive religion, in which Humanity is substituted for God. Its Pope was Comte himself. He also wrote its catechism and instituted its cult. His will directed that his rooms be preserved as the headquarters of the new religion of Humanity.

According to Comte, all our knowledge as well as all religions pass through three stages or phases: the theological, the metaphysical, the positive. In the first two stages, men look for causes and essences, in the positive for laws; hence positive philosophy is a denial of metaphysics and therefore of all philosophy. But the first and greatest aim of positive philosophy is to advance the study of society to the third stage, and to reconstruct society in accordance with the insight gained. Comte is also famous for having proposed the following hierarchy of sciences: mathematics, astronomy, physics, chemistry, biology, sociology, each being one degree more special than the one preceding it.<sup>1</sup>

<sup>1</sup>Cf. *Cath. Enc.* s. v. Positivism.



*John Stuart Mill (1806-1873)*

was born in London, the eldest son of James Mill, himself a philosopher. He was entirely educated by his father and deliberately shielded from association with other boys of his age. By the time he was 13, he had studied Greek, Latin, history and logic; he had read Aristotle's logical treatises in the original. During a year in France he not only mastered the French language, but also studied chemistry and botany and tackled advanced mathematical problems. No wonder that, on his first public appearance, he was looked upon as a precocious phenomenon; he was over-educated. In 1822 he entered the examiner's office of the India House, and in 1828 was promoted to assistant-examiner. From 1836 to 1856 Mill had charge of the Company's relations with the native states of India, and in 1856 he became chief of the office. On the dissolution of the East India Company in 1858 he retired with a pension of 1,500 pounds. From then on he lived mostly at a villa near Avignon in southern France, where he died.



The greatest of Mill's work is *A System of Logic* (1843), which ran through many editions and was revised twice, in 1850 and again in 1872. Though an adherent of Comte's positive philosophy, Mill modified it in many ways. Another work of his, *Principles of Political Economy* (1848), also saw many editions and exerted a powerful influence on contemporary English thought.

## B. SCHOLASTIC PHILOSOPHY

As in the preceding section, we shall again answer two questions: What is scholastic philosophy? Who were the great Scholastics? We shall add a few words about Neo-Scholasticism, the thesis-form and scholastic disputations.

### I. Nature of Scholastic Philosophy

Instead of an abstract definition, an outline of the origin, method and metaphysics of scholastic philosophy would seem more serviceable for the beginner.

#### 1. Origin

Scholastic philosophy may be said to be a by-product of scholastic theology, which arose out of the new revelation brought by Christ, the Son of God. Without that revelation, there would have been no new theology and no new philosophy. St. Justin and Origen in the second and third centuries were the founders of that new theology, of which St. Augustine enunciated the guiding principle "*fides quaerens intellectum*". That is, Christian revelation being accepted in faith, human reason set to work to *understand* the truths of faith. But such a goal could never be reached except with the aid of a sound speculative philosophy.

Now in following out this leading idea, the Fathers relied to a great extent on Plato's philosophy. *Aristotle* was practically unknown to them. But in the course of time, the great theologians of the middle ages succeeded in procuring better editions (or rather, Latin translations) of Aristotle's works, and they could not but see the superiority of his philosophy. His principles and method were not only sounder than those of his great teacher, but also more consonant with Christian revelation. After a long and stubborn fight, Aristotle was therefore chosen as the "master of those who know" (Dante).

Thus with St. Augustine's principle as the driving power, scholastic theology came into being, a harmonious system of faith and of sound reason, of which Aristotle had furnished the principles.

Still, the medieval thinkers were too clear-headed to confuse theology with philosophy, and too large-minded to value theology alone. Already Boethius (480-524), the Prime Minister of Theodoric the Great, made a *distinction* between faith and reason, making bold to erect a system of natural theology on the latter alone. But philosophy was not separated from theology as a distinct treatise until much later.

Historically, then, scholastic philosophy involves a four-fold extrinsic relation: to Catholic theology and to Christian revelation, to Aristotle and St. Augustine.

## 2. Method

Aristotle's works were numerous. But two of them contributed most toward the upbuilding of scholastic philosophy. One was the *Organon* or what we should call today *Logic*. It became known in the West through Boethius, who translated Aristotle's *Categories*, *De Interpretatione* and *Analytica Posteriora*. It was through the rigorous use of this *Logic* that the Scholastics gradually worked out a definite method for discussing the questions then confronting theology and philosophy. Practically, this, the *scholastic method*, consists in the following five steps: (a) to state clearly and without ambiguity or equivocation the precise point at issue; (b) to define clearly the terms which enter into the dispute and to divide off their various meanings; (c) to prove the solution adopted and show its position within the system; (d) to answer real or possible objections; (e) to draw, if possible, further conclusions (corollaries).

The method is called scholastic because it was meant for the *school* (not for the bar or the pulpit or a debating club).

And because it was meant for the school (*secundum quod congruit ad eruditionem incipientium*, as St. Thomas put it), it strove everywhere for brevity and precision. It divided and subdivided a question proposed; but the general issue as well as the particular problem was never lost sight of, was viewed from every angle and was solved definitely before the next was broached. Still, one must beware of conceiving this method as the soul of scholasticism; its soul, the driving power, was St. Augustine's principle, the defence and systematization of the deposit of faith.

### 3. Metaphysics

The building up of scholastic theology and philosophy was greatly furthered by another of Aristotle's works, his 12 books on *Metaphysics*. The fundamental notions and principles there analyzed by Aristotle were taken up one by one, reexamined in the new light of Christian revelation as to their ultimate validity, refined and redefined. For the Scholastics were bent on producing a *scientia universa*, and a *scientia* needs not only formal, but also material principles, firm, absolute and so universal that they can be applied anywhere and everywhere. Hence it is that in scholasticism everything hangs together. Everything is impregnated with the concepts of act and potency, causality, form, essence, substance, relation; metaphysics sustains all and is the framework of the whole. Every branch of philosophy is saturated with metaphysics and can only be understood in the light of its principles.

It is because of this intrinsic unity and order, corresponding to a mental need, that scholasticism has exerted such an attraction on thinkers of the West.

The gigantic intellectual labor by which the Scholastics eventually constructed the outline of their *scientia universa*, is hardly appreciated today. A book like Gilson's *Spirit of Medieval Philosophy* was needed to recall it to a generation

that is just getting over the Renaissance fiction of the “dark ages”. But to call this process “the transmutation of Aristotle into a medieval theologian”, as does Will Durant (*Story of Philosophy*, p. 116), is journalistic slang, not sober history.<sup>1</sup>

## II. Great Scholastics

As has been insinuated, the Scholastics of the middle age were first and foremost theologians. Because *St. Anselm of Canterbury* (1033-1109) was the first to apply the scholastic method extensively to his teaching and writings, he is rightly called the father of scholasticism. The method was improved by *Abelard* (1079-1142) and his successors, especially by *Peter the Lombard* (died 1160), whose *Liber Sententiarum* remained the standard text book for centuries. But we shall here mention only those Scholastics who did much to further speculative philosophy.

*St. Albert the Great* (1193-1280) was born of a noble family at Lauingen in Bavaria. He joined the Dominicans at Padua in Italy, but was soon sent to Cologne, where he spent a great part of his life. In 1245 he went to Paris to receive the degree of doctor and magister theologiae. Returning to Cologne he taught theology there and had St. Thomas for his pupil. He was made Provincial of the German Dominicans in 1254 and bishop of Ratisbon in 1260. Having resigned after two years he preached the crusade in Germany and Bohemia. Then he returned a



<sup>1</sup>*D. J. Kennedy*, *St. Thomas and Medieval Philosophy* (1919) *M. de Wulf*, *Philosophy and Civilization in the Middle Ages* (1922) *E. Gilson*, *The Spirit of Medieval Philosophy* (1936); *G. G. Walsh*, *Medieval Humanism* (1942).

teacher to the houses of his order in Würzburg, Strassburg and Cologne. In his old age (1277), he undertook the long journey to Paris to defend his pupil St. Thomas against the attacks of the university. He died at Cologne in 1280. Pius XI canonized him in 1932 and made him a Doctor of the Church.

While St. Albert's name is great as a theologian, yet his outstanding merit lies rather in the field of philosophy and the descriptive sciences. His knowledge of facts, the marvel of his age, was due to his uncanny gift of observation, his sober judgment and his almost superhuman power of work. Also he was primarily responsible for introducing Aristotle into medieval philosophy. His works, which are numerous, are much more difficult to read than those of St. Thomas, whom he may have surpassed in the extent of knowledge, but did not equal in the power of systematization.<sup>1</sup>



*St. Thomas Aquinas* (1226-1274) was born of a noble family at Roccasecca, near Monte Cassino, Italy. He studied at Naples and there, against the will of his parents, entered the order of the Dominicans, whereupon he was abducted and imprisoned by his brothers. Released, he went for further studies to Paris and from there to Cologne, where he had St. Albert for teacher. He received the Master's degree at Paris in 1252 and taught there for the next seven years, first as baccalaureus biblicus and baccalaureus sententiarum, and then as magister in theologia.

<sup>1</sup>Cf. *Cath. Enc.* s. v. Albertus Magnus; *Th. M. Schwertner, O.P.*, St. Albert the Great (1932); *S. M. Albert, O.P.*, St. Albert the Great (Blackfriars 1948).

In 1260 he was made praedicator generalis of his order and acted as lector curiae at the papal court in Orvieto. In 1265 he became prefect of studies in the college of S. Sabina in Rome, and then again lector curiae at the papal court of Viterbo. From 1269 till 1272 he taught theology at Paris and at Naples. He died at Fossanuova while he was on his way to attend the second Council of Lyons. Pope John XXII canonized him (1323), Pius V declared him Doctor of the Church (1567), Leo XIII made him patron of Catholic higher schools (1879). Canon Law prescribes that in all seminaries philosophy and theology must be taught in accordance with St. Thomas' ratio, doctrina, principia.

Though St. Thomas died at the early age of 48, his writings are voluminous. He wrote commentaries on many of Aristotle's works, explanations of many books of the Bible, systematic works, esp. the *Summa contra gentiles* (1259-1264) and the *Summa theologiae* (1266-1273), many *Quaestiones* and some 50 *Opuscula*.<sup>1</sup> Already his contemporaries judged him to be a metaphysical genius of the first order, and posterity has never ceased to voice the same verdict. His power of systematization is unexcelled. The best commentator of Aristotle, he was mainly responsible for the bold application of Aristotle's philosophy to Catholic faith. Apart from individual doctrines, he was the first to determine accurately the relation between science and philosophy as well as between philosophy and theology. Moreover he constantly opposed the Averroistic theory of the "double truth" as well as the theory that philosophy was merely the ancilla theologiae.<sup>2</sup>

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<sup>1</sup>Cf. *Raeymaecker* p. 259-269.

<sup>2</sup>Cf. *Cath. Enc.* s. v. Thomas Aquinas; *C. Lattey*, St. Thomas Aquinas (Herder 1924); *M. Grabmann*, Thomas Aquinas (N. Y. 1928); *G. K. Chesterton*, St. Thomas Aquinas (Sheed and Ward 1933). *A. D. Sertillanges*, Saint Thomas and his Work (1932); *G. Vann*, St. Thomas Aquinas (1947); *M. C. d'Arcy*, Thomas

*Duns Scotus* (1266-1308) was born in Scotland. He joined the order of the Franciscans and studied theology at Paris and Oxford. From 1300 on he taught theology at Cambridge and Oxford, then at Paris, and finally at Cologne, where he died. There is some dispute about the genuinity of his works. Certainly genuine are his commentary on the *Liber Sententiarum* of Peter the Lombard, *Quaestiones in Metaphysicam* and *De primo principio*.

Scotus was called *doctor subtilis* by contemporaries, but his system, Scotism, exerted a powerful influence throughout the middle ages. He differs in some points from St. Thomas, agreeing rather with St. Bonaventure in theology and with Avicenna in philosophy.<sup>1</sup>

*William of Ockam* (1300-1349) was born at Ockam, county Surrey, England. He entered the order of Franciscans when quite young, studied at Oxford and then lectured there on the *Sentences* of Peter the Lombard. He never attained the degree of Magister or Doctor because he was soon accused of heresy and summoned to Avignon (1324) where the Pope then resided. In 1328 he escaped and placed himself under the protection of Louis the Bavarian with these words: "You defend me with the sword and I shall defend you with the pen". Excommunicated, Ockam went to Munich where he wrote vicious diatribes against the Pope. After Louis' sudden death (1347), Ockam tried to make his peace with the Church. He died at Munich, perhaps a victim of the black death which then ravaged Southern Germany.

Ockam's place among the Scholastics is insecure. Apart from his heretical opinions and attacks on the Pope, his *nominalism* would not only wreck science and philosophy, but also divorce faith from reason. Yet his influence on

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Aquinas (1944); *A. Pegis*, *The Basic Writings of St. Thomas Aquinas* (1945); *J. Maritain*, *St. Thomas Aquinas* (1948).

<sup>1</sup>Cf. *Cath. Enc.* s. v. *Duns Scotus*.



later philosophical thought in England cannot be exaggerated; Locke, Berkeley and Hume were his heirs.<sup>1</sup>



*Francis Suarez* (1548-1617) was born at Granada, Spain. After becoming a Jesuit and making his higher studies at Salamanca, he taught theology—first at various places in Spain and then in Rome (1580-5). Returning to Spain, he taught at Alcalá (1585-1593) and Salamanca. The last 20 years of his life (1597-1616) he taught at Coimbra in Portugal. He died at Lisbon.

Suarez' literary output is enormous, and some of his works are classical, for instance, *De virtute et statu religionis*. His treatise *De Legibus* is a summary of what Spanish theologians of the 16th century taught on natural law, international relations and political economy. His greatest work on philosophy proper are the *Disputationes metaphysicae*, composed at Salamanca and first published in 1597; Leibniz tells us that they were read even in Protestant universities during the 17th century.

Suarez' style is clear and his metaphysics profound; his erudition was vast and his energy untiring. His contemporaries called him *doctor eximius*.<sup>2</sup>

Let us add here a few words on the *medieval "schools"*. Scholastics did not all think alike in everything. There were several "schools" of thought. Thomists followed St. Thomas; Scotists, mainly of the order of Franciscans, adopted Scotus' system; Augustinians tried to preserve St.

<sup>1</sup>Cf. *Cath. Enc.* s. v. William of Ockham; *E. A. Moody*, *The Logic of William of Ockham* (Sheed and Ward 1935).

<sup>2</sup>Cf. *Cath. Enc.* s. v. Suarez; *J. H. Fichter*, *Man of Spain* (Macmillan 1940).

Augustine's views against the innovations of Aristotelianism; Nominalists took over the ideas of William of Ockam. But with the possible exception of the last-named, each of these schools accepted and handed on a certain patrimony of philosophical truth. In spite of diversity, there was a fundamental unity in medieval scholasticism.

This fundamental unity was preserved by Suarez, who constitutes the link between the middle ages and the modern period. Because he was not a strict Thomist, but tried to mediate between the different schools, he is sometimes called an eclectic. But there is eclecticism and eclecticism. Mere random picking from different systems is eclecticism of a poor kind. But like St. Thomas in his day, Suarez made a thorough study of all his predecessors, subjected their principles and conclusions to a critical scrutiny, and finally systematized the certain knowledge thus gained. It was the work of a true philosopher.

### III. Neo-Scholasticism

There was a notable decline of scholasticism in the 17th and 18th centuries, brought on by the rising importance of history and the physical sciences, and by the spread of rationalism all over Europe. The French revolution and the Napoleonic wars destroyed the little that was left. But toward the middle of the 19th century some Catholics made bold to advocate a return to the method and principles of the old Scholastics, and the movement received its official sanction in the encyclical *Aeterni Patris* of Leo XIII (1879). This movement is known as Neo-Scholasticism or Neo-Thomism. Its purpose is threefold: to know and make known the traditional scholastic philosophy, primarily that of St. Thomas, to apply it to modern problems, to enrich it with our superior knowledge of science and history.<sup>1</sup>

<sup>1</sup>Cf. *Cath. Enc.* s. v. Neo-Scholasticism; *Joseph Rickaby*, *Scholas-*

#### IV. The Thesis

1. It is customary today among Scholastics to present philosophy in a series of theses. This is by no means the only nor perhaps the best form.<sup>1</sup> Still it has its advantages. And as we shall follow common usage, a few remarks to explain its makeup will not be out of place.

Generally speaking, the thesis consists of six parts:<sup>2</sup>

a. The *statement* of the thesis. This ought to be worded with the utmost care; there should be no ambiguity, no superfluity, no obscurity. Without exaggeration we may say that the laws laid down for real definitions find their application here.

b. The *state of the question* (*status quaestionis*). This part comprises first of all an explanation of the *terms* used in the statement of the thesis, secondly a brief description of the meaning of the thesis as a *whole* (including distinction of parts, if there are any), thirdly an outline of the various *opinions* formerly or now held on the subject of the thesis.

It is also becoming more and more customary to state at the outset whether the thesis is to be held as certain or as only probable. Not all theses found in scholastic textbooks are certain. Hence assigning a "*note*" to each thesis helps toward clearness of thought.

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ticism (1908); *M. de Wulf*, Scholasticism Old and New (1910); *J. S. Zybura*, Present-day Thinkers and the New Scholasticism (1926); *J. D. Rolbiecki*, The Prospects of Philosophy (1939); *G. Bruni*, Progressive Scholasticism (1929); *Raeymaeker* p. 161-2, 175-9.

<sup>1</sup>Saint Thomas follows a slightly different procedure. He begins with a question ("Utrum Deus sit" I qu. 2 a. 3). Next, roughly corresponding to our "adversaries," are the objections against the thesis he is going to uphold ("videtur quod Deus non sit"). Then, after briefly indicating what we might call the note of the thesis ("sed contra est quod"), he gives the proof of the thesis ("respondeo dicendum quod"). Finally, he answers the objections mentioned in the first place ("ad primum ergo dicendum quod").

<sup>2</sup>This scheme appears already with the Scholastics of the 14th century; it was perfected by Melchior Cano in the 16th and gained universal acceptance by the end of the 17th century.

c. The *proof*, which consists of one or more arguments.

Strictly speaking, one argument suffices. Usually, however, *several* are given. The thesis may be connected with many other truths already known, each of which may shed light on it. Besides, not all arguments are of equal force, nor has every argument the same appeal for all.

Theses claimed to be certain must, of course, rest on *convincing* arguments; probable arguments do not make a thesis certain. But even where convincing arguments are available, *probable* arguments are sometimes added for their subjective value; they incline the mind toward the same truth, or they may remove subjective difficulties etc.

In textbooks written for beginners, it seems best to put all arguments in strictly *syllogistic* form. Such a practice may look unnatural and stilted, but it is an invaluable aid toward clear thinking.

d. *Corollaries* are propositions which flow (immediately or mediately) from the thesis. One who admits the thesis, cannot logically deny them.

e. *Objections* or *difficulties* are the arguments by which the opponents of the thesis try to uphold their side. It is the student's duty not only to be acquainted with them, but also to be able to solve them.<sup>1</sup>

f. *Scholia* are brief discussions of points more or less connected with the thesis.

2. If serious and disinterested inquiry after the truth has rightly been called the *soul* of the scholastic method, the thesis is its *body* or external form. Scholastics did not find it in Aristotle's books, but worked it out themselves, primarily for the study of theology. Its advantages, recognized also by contemporary non-scholastic thinkers,<sup>2</sup> are self-evident:

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<sup>1</sup>It is this acquaintance with wrong opinions, not universal doubt, which Aristotle and St. Thomas demand of the true philosopher.

<sup>2</sup>See Zyburá, *Present-day Thinkers* etc. p. 101; Coffey, *Log.* II p. 19-21; D. S. Robinson, *Principles of Reasoning* p. 372-8.

a. If the terms of the thesis have been carefully defined and its meaning clearly stated, matters *irrelevant* to the issue will not easily creep into the discussion.

b. On the other hand, there is no side-stepping the issue. *Opponents*, actual or possible, must be known and answered to everybody's satisfaction. Within reason, of course, since "none so blind as those who will not see."

c. The syllogistic form of the proof makes for straight thinking. The *principles* are enunciated clearly and boldly; they must therefore be such that they can be held against any who would challenge them. The *form* must, of course, be perfect—not only as far as ideas go, but preferably also as to the words. Masters of both philosophy and style may combine solid argumentation with brilliant diction; the beginner had better abstain from pyrotechnics.

d. There is no better *training* of the mature mind. We learn many new truths, see old ones moved into new perspectives, discover the logical ties that bind them into a well-rounded system. But above all, the focus of attention (to use the language of modern psychology) is widened as much as is humanly possible; for the mind is obliged to *concentrate* on all points bearing on one theme—a difficult, but wholesome mental gymnastics.<sup>1</sup>

## V. The Scholastic Disputation

The *purpose* of scholastic disputations or circles (as they are commonly called) is twofold: (a) to repeat a thesis already explained and to clarify its import in the minds of the class, (b) to test and sharpen the minds of the disputants.

There are only two disputants: the *defender*, whose duty is to explain and prove the thesis assigned, and to answer all objections brought against it; the *objector*, who marshals various arguments against the same thesis. Generally also

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<sup>1</sup>See Gruender p. 203-5, 229-230.

a time-keeper is appointed; he does not enter the fray, but merely calls out the time allotted to each of the disputants.

A scholastic disputation is not a debate. The thesis assigned is not a debatable matter, but is to be held by the defender against all comers; no vote is taken at the end. Nor is the scholastic disputation an oratorical contest. Long speeches and Ciceronian periods are wholly out of place. In fact one of the rules is that the disputation must proceed "*in form*", that is, by way of strict syllogism.<sup>1</sup>

### 1. GENERAL RULES

a. As was just remarked, scholastic disputations proceed by way of strict syllogisms. At times, it may be necessary to put a question or to ask for an explanation. But as a rule, syllogism follows syllogism; for the syllogism is the simplest, clearest and most cogent form of argumentation.

b. Let each disputant take the other's words in exactly the same sense in which they were first uttered. Twisting an opponent's words to one's own meaning, is foreign to scholastic disputation.

c. Let modesty and charity reign throughout. No sarcasm, no superior airs, no abusive language, no derogatory remarks. Above all, no shouting or thumping of tables; it is a battle of wits, not of voices or fists.

d. Both disputants are seated. In some places, however, it is customary for the defender to stand while announcing the thesis to be defended, and for the objector while making his counter-assertion.

### 2. GENERAL OUTLINE

Suppose the thesis to be defended is the following: "Philosophy is desirable as a branch of study."<sup>2</sup>

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<sup>1</sup>The philosophical terms here used (syllogism, antecedent, major, minor etc.) will be explained in the course of Logic.

<sup>2</sup>For another example see *Coppens*, Logic p. 45-7.

The *defender*, standing, begins by saying: The thesis to be defended today is as follows: "Philosophy is desirable as a branch of study." Seating himself, he first explains what he understands by philosophy and in what sense he claims it to be desirable. Then passing the centuries in review, he enumerates the various opponents of the thesis, indicating also some of the reasons of their opposition. Finally he proves his thesis by one or more syllogisms. After that he says: And thus the thesis would seem to be proved.

The *objector* now begins: Against the thesis which says "Philosophy is desirable as a branch of study," I argue thus: "Philosophy is undesirable; therefore your thesis is false."

*Defender.* Against the thesis which says "Philosophy is desirable as a branch of study," it is argued: "Philosophy is undesirable"; therefore the thesis is false. Philosophy is undesirable—I deny the antecedent.

*Objector.* I shall prove the antecedent. A study which does not agree with our natural inclinations, is undesirable; now philosophy is such a study; therefore philosophy is undesirable.

*Defender.* He first repeats the whole syllogism word for word. Then he says: Regarding the major: A study which does not agree with our inclinations, is undesirable—I distinguish the major: A study which does not agree with any of our inclinations, is undesirable—I concede the major; a study which does not agree with our lower, but does agree with our higher inclinations, is undesirable—I deny the major. Regarding the minor: Philosophy is such a study. I contradistinguish the minor: Philosophy does not agree with any of our inclinations—I deny the minor; philosophy does not agree with our lower inclinations—I transmit the minor. Therefore philosophy is undesirable—with the distinction given, I deny the conclusion.

*Objector.* But philosophy agrees with none of our inclinations; therefore my objection stands.

*Defender.* But philosophy agrees with none of our inclinations; therefore the difficulty stands. Regarding the subsumption: Philosophy agrees with none of our inclinations—I deny the subsumption.

*Objector.* I shall prove the subsumption. If philosophy agreed with any of our inclinations, it would agree with the higher. Now philosophy does not agree with our higher inclinations. Therefore philosophy does not agree with any.

*Defender.* He again repeats the whole syllogism. Then he says: Regarding the major: If philosophy agreed with any of our inclinations it would agree with the higher—I grant the major. Regarding the minor: Philosophy does not agree with our higher inclinations—I deny the minor.

*Objector.* I shall prove the minor. A study which deals only with obscurities, does not agree with our higher inclinations. Now philosophy is such a study. Therefore philosophy does not agree with our higher inclinations.

*Defender.* He first repeats the whole syllogism. Then he says: Regarding the major: A study which deals only with obscurities, does not agree with our higher inclinations—I distinguish the major. A study which deals with obscurities and leaves them obscure—I grant the major; a study which deals with obscurities to elucidate

them—I deny the major. Regarding the minor: Philosophy is such a study—I contradistinguish the minor. Philosophy deals with obscurities to leave them obscure—I deny the minor; philosophy deals with obscurities to elucidate them—I grant the minor. Therefore philosophy does not agree with our higher inclinations—I deny the conclusion.

*Objector.* But philosophy does not elucidate obscurities. Therefore my difficulty stands.

And so on until time is called.

### 3. SPECIAL POINTS

#### 1. For the Defender

The defender gives no reason for his answers, though, of course, he must know them. But he must beware of being “sacked,” that is of being forced to retract an answer once given.

Ordinarily, the defender will answer the objections by a *concession* or by a *denial* or by a *distinction*. He concedes a proposition which is true; he denies those which are false; he distinguishes ambiguous propositions, i.e. those which have a true and a false meaning, granting the former and denying the latter.

The ambiguity may be contained in any of the three terms of the opponent’s syllogism, and as each term occurs twice, any distinction must be applied to two propositions. If the middle term is ambiguous, the major must be distinguished and the minor contradistinguished. If either the subject or the predicate of the conclusion is ambiguous, distinguish the premise in which the term occurs and “likewise” distinguish the conclusion.

Other forms of reply:

a. If the objector’s syllogism violates any of the rules of the syllogism, there is no use replying to the single propositions. Let the defender simply say: “The syllogism *lacks form* or *sequence*.” If asked, the defender must, of course, be ready to tell which rule is violated.

b. A proposition, whether true or false, may be *transmitted* if it has no special bearing on the objection proposed.



c. Sometimes the objector's argument rests on a *false supposition*. In such a case the defender says: "I deny the supposition, viz. . . ." indicating the false supposition.<sup>1</sup>

d. If in a *disjunctive* syllogism the disjunction is incomplete, the defender says: "I deny the major", or "the disjunction of the major is incomplete". He may then add the member missing or wait until asked to do so.

e. In objections from *analogy* (similarity, a pari), he will often find it necessary to deny the parity.

f. If the defender is asked a *question*, let him, before answering, repeat it word for word. This will not only give him time to think, but also insure mutual understanding.

g. If the *major* is to be denied, let him say: "Begging your pardon, I deny the major." The reason is that before making a universal statement (such as the major usually contains), every intelligent being is supposed to have examined it very carefully; hence to reject a man's universal proposition flatly, is rather a slur on his intelligence.

## 2. For the Objector

The objector denies the thesis, but he also supports his denial by means of arguments, the best he can think of. He pretends to be convinced of the opposite. Therefore he asserts the contradictory (or contrary) of the thesis and advances various arguments to prove that he is right.

a) If a thesis contains several statements, he may direct his attacks against any one of them, leaving the others out of the disputation. b) Instead of attacking the thesis directly, he may also object against the arguments brought forward by the defender. But then he must not conclude: Therefore the thesis is false; but: Therefore the thesis is not proved; or at least: Therefore this argument is futile (whatever may be said of other arguments).

*How to prepare objections?* There are two sources where objections against a thesis may be found: Reflection and books.

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<sup>1</sup>The objector is very apt to base his argument on a false supposition when he does not know the precise meaning of the thesis he is to attack.

Studying a thesis and reflecting on its meaning and force, the objector may find that it seemingly clashes with other theses or with facts known to him from experience, history etc. Let him jot down these apparent contradictions as they occur to him and throw them into syllogistic form. Let him then try to foresee what the defender, in the light of his thesis, would reply to them and hence how he would subsume on the defender's answers.

Books on the same or kindred subjects are only a secondary means. Their principal purpose is to stimulate reflection, not to furnish ready-made syllogisms and subsumptions.

How the objector is to begin and proceed in the actual disputation, is clear from the general outline. Let him remember three things with regard to the syllogisms he advances. (a) They should, as far as possible, be *categorical* and of the *first figure*; for in these the form is most convincing. Conditional syllogisms should not be indulged in too often. (b) Make your syllogisms as *short* as possible; for remember that the defender will have to repeat them word for word. (c) Do not add the *reasons* for your premises; if necessary, these will be brought out in the course of the disputation; e.g. when a premise is flatly denied by the defender.

Let the objector also note the following points:

a. If a premise has been *denied*, he must at once prove it by means of a syllogism, saying: I shall prove the major (or minor).

b. If his syllogism has been *distinguished*, he can urge the difficulty by "*subsuming*." The ordinary way of subsuming is to take up the precise member denied in the defender's distinction and to prove it true by means of another syllogism.

c. If the solution given by the defender is not clear, he may ask: Please explain your distinction.

d. If the defender should deny a universal proposition which would seem to be undeniable, the objector may counter by saying: Will you please give me an exception.

e. If the defender denies a disjunction to be complete, the objector may say: Will you please add another member to the disjunction.

### **3. For the Audience**

Scholastic disputations are not much in favor today. Even students of philosophy are often listless and apathetic. The main reason for this apathy is no doubt that many in the audience do not know what to do with themselves during the disputation. Merely sitting there and listening or waiting for a good laugh is not intellectual work. But the audience (the class, as a rule) is meant to do more.

While the defender is exposing the thesis in his own words, let each member of the class see if his conception of the thesis agrees with that of the defender. Ask yourself: Are the defender's definitions and divisions correct? Does he bring out the stand of the adversaries? Are his arguments in good form? Why not use different arguments?

When listening to the objections, reflect how you would answer them. Does the defender's answer really solve the difficulty or only push it back? Are you satisfied with the answer given? Could you push the difficulty still further? If so, your chance to speak up comes after the appointed objector.

For after the objector's time is up, the time-keeper invites the audience who may propose any question or difficulty on the matter in hand.

### C. BEGINNING OF PHILOSOPHY

The third topic to be discussed in this Introduction is the following: What is to be our *initial attitude*? How shall we begin philosophy? Shall we play the skeptic or the dogmatist? Shall we doubt or deny everything until proof is forthcoming, or shall we take some things for granted from the start? To take but one example: Shall we deny that the world around us is real? Shall we doubt about it? Shall we abstract from it, leaving it, as it were, in the air, a debatable issue? Or shall we admit it from the beginning?

#### 1. In General

Now every science has its *suppositions*. To end somewhere, it must begin somewhere. Philosophy is no exception. Philosophy, too, supposes some things. A philosopher who would suppose absolutely nothing, would be stalled at the outset. The question can only be: *What* must the philosopher suppose?

J. Maritain (Introd. to Phil.) rightly insists in general that the philosopher must accept from the outset the truths of *common sense*. The fact is that some things are so evident and therefore held by all sane men that we do not even listen to one trying to sell us the opposite. For instance, to get out on the street from my room on the fifth floor, I can either take the elevator or walk down the stairs or jump out of the window. But for anyone to suggest seriously the last method, would mark him as a fool for the rest of his life.

This is only one instance of common sense; but there are many others. As Fr. d'Arcy said (in Dublin Review 1927 p. 161): "There is a common stock of knowledge which all men and women use in the ordinary concerns of life, gained from the primitive and inevitable experiences which every human being must undergo. This common experience is found in language, and used in literature and conversation, and presupposed and added to in the conduct of art and commerce".

The next question then is: Which are those truths of common sense which even the philosopher must accept from the beginning?

The answer to this question is beset with difficulties. But in general we may say: The philosopher is supposed to admit from the start whatever is evident, or at least whatever is perfectly evident. Or we may say: He is supposed to hold whatever it would be *absurd* to doubt or deny. Or, putting it another way: He is supposed to hold what only a *fool* would doubt or deny.

But to draw up an itemized list of these suppositions, is no easy task. The following seems to be the minimum.

1. There is a distinction between *normal* and *abnormal*. If we consider the conscious behavior of people, we must separate the normal from the abnormal. There are indeed shades and gradations of both, and to classify a definite person may not always be an easy (or safe) matter. But we do have insane asylums for clearly abnormal people, whereas the life and actions of the ordinary man agree, as a rule, with the dictates of common sense.

2. There is *truth* and *error*. Some statements are true, others false. We ourselves make assertions, some of them being true, others false. This is a fact of daily experience. We are all conscious of the fundamental distinction between truth and error.

One might indeed becloud the issue by repeating Pilate's petulant query: What is truth? And as we shall see in Epistemology, modern philosophers love to wrangle about the definition of truth and error. Common sense is not worried by their antics. If things are as we say they are, our speech is true; if things are not as we say they are, we are in error. Truth then is agreement with reality, error disagreement.

3. We can and do know some things for *certain*. No, we are not always sure; but of some things we are so sure that we should be willing to stake our money, our reputation, our life on their truth. We may not be able to prove their

truth to others, but that does not and need not lessen our conviction.

4. There are *universal principles*, which we are convinced hold everywhere and at all times. Such, for instance, are: no two contradictories can be true; whatever begins, must have a cause.

5. I am *real* (not a mere phantom, a dream) and surrounded by countless other beings just as real as myself. This is self-evident.

6. The beings of this world are not all of the same *nature*.

This statement may not be self-evident, but it is certainly a truth of common sense. Man is not of the same nature as his dog or the rosebush in his garden or a pebble on the seashore. While they have some things in common (e.g. weight, extension), there are notable and constant differences between them.

7. There is *order* in the universe, in the sense that some beings are on a higher, others on a lower, level of existence. To take the four examples just mentioned. Man is certainly more perfect than his dog; the dog may have better scent, greater speed, more endurance, but taking in everything, man is certainly superior to him. Again, the dog, being endowed with senses and spontaneous locomotion, is superior to the rosebush. Lastly, while the rosebush is able to bring forth leaves and flowers, the pebble is lifeless and dead.

8. Man is a *rational animal*. He can think (judge, reflect, reason). Man is also endowed with *free will*; he can choose deliberately between different courses of action. Descartes called free will the most evident thing in the world.

9. Man's mind is *made for the truth*. The quest of truth is an ineradicable tendency of ours; we hate lies and errors and all sham. Not only that, but we want to be sure that we have the truth; neither doubts nor mere opinions satisfy us in the long run.

10. Man's will is *made for the good*. We love what we recognize as good and hate evil.

11. Man has a *soul*, distinct from the body. We eat "to keep body and soul together", as the saying goes. At death, something departs while the body remains; the body alone is interred.

12. That the human soul is *spiritual*, is perhaps less evident, but it follows from the undeniable fact that man is a rational animal and has a free will. For thinking and choosing freely are actions independent of matter, and that is here meant by "spiritual".

13. There is a *life after death*. The human soul, being independent of matter, naturally keeps on existing even after it has departed from the body.

14. There is a *personal God*. This is first of all the conviction of mankind, of all races and religions. An open profession of atheism usually gets and amply deserves everybody's contempt. Plato, a pagan, called atheism a disease of the soul. According to the psalmist, the fool says in his heart: there is no God. Locke, though a great advocate of political tolerance, would not tolerate atheists. Even Robespierre told the atheists of the French Revolution: If there were no God, He would have to be invented. The army chaplains of World War II testified that there were no atheists in the foxholes.

15. *God made this world*. Also this is a universal conviction. The order and beauty of this world convince every unspoiled mind that it could only be the work of an all-wise Creator. Which is not saying that everything in this world is perfect, or that our puny standards are the measure of perfection.

16. *God is to be worshipped*, viz. as our Creator. We owe all things to Him; without Him we would be nothing. We are wholly dependent on Him. This is not merely a pious thought, but the plain truth.

17. There is *good* and *bad*. Some human actions are good, others bad. Helping your neighbor in his need is good, murdering an innocent person is bad. No custom, no state law can change it.

18. Man has a *conscience* to tell him which of his proposed actions are good and which bad. This is self-evident to every grown-up person.

19. We are ultimately *responsible to God* for our free actions. For He created us and gave us a conscience, which bids us to do good and to avoid evil. He gave no such faculty to animals.

No doubt, by far the majority of those reporting for a course in philosophy have always held these 19 propositions. But it should be clearly understood from the outset that *all* are expected to hold them firmly; else no beginning is possible. Philosophy being a system, it will discuss and prove the same propositions one by one, each in its place; but it does not pretend to create them in the student's mind for the first time.<sup>1</sup>

A final piece of advice may not be superfluous at the present day.

The philosopher must not only begin with these homely truths, his speculations must also leave them intact. It will not do for the professor of philosophy to laud common sense at the beginning of his course, and then, as he goes on with his lectures, destroy one truth of common sense after the other. That would be like blasting away the foundation after the building is up.

It is here that the student has the right to sit in judgment on the professor.

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<sup>1</sup>More on this subject may be read in the Proceedings of the 18th Annual Convention of the Jesuit Philosophical Association of the Eastern States 1941. The underlying idea was also stressed in Fr. Toohey's Presidential Address at the 12th (1936) meeting of the American Philosophical Association. In his posthumous work "Does God Exist?" (Macmillan 1947) A. E. Taylor applies the same principle of common sense to science.



## 2. Beginning of Scholastic Philosophy

What has been said so far, also holds for those who begin the study of scholastic philosophy. For scholastic philosophy is not disguised theology. Being a true philosophy, it relies on man's *natural abilities* in the quest of ultimate truths. Nor does it extend the material object to those truths which are known only through faith. Its material object are all things *naturally knowable*.

Nevertheless, a) Scholastics will not favor theories incompatible with Catholic faith (infra p. 170, 277). For, as Catholics they are not only sure of the truths of common sense, but also of the whole of Catholic faith. b) In order to guard against misapprehensions to which the limitations of merely natural knowledge might give rise, Scholastics at times make their definitions more precise by drawing on their faith (infra p. 53, 233, 329). But this is done rarely, and only where there is danger that Catholic students might be misled. c) Explanations are at times extended to concepts taken from faith (e.g. Trinity, angels, sacraments). Faith is not thereby made a basis for philosophy. But since the student comes to philosophy with these concepts, it is convenient that their relation to philosophy be touched upon (infra p. 59, 255, 294, 297, 349, 358, 371, 384).

LOGIC



## INTRODUCTION

*Logic is the science and art of right reasoning.*

1. We often think or *reason*. When a friend rings my telephone in the middle of the night and begs me to come right over to his house, I am convinced that something serious has happened. He did not tell me so, but I inferred it, I reasoned to it.

Experience tells us not only that we reason, but also that we *must* reason. We must look ahead, we must plan, and in planning life's future we must begin with realities to make real that which we envisage.

Experience also tells us that we often *err* in reasoning. After the event we may even be able to analyze our error and discover where exactly we missed the bus. If we are wise, we shall guard against such reasoning in the future. It is in this sense that experience becomes our teacher, a real school.

But experience has rightly been called a school of hard knocks. Logic is suggested as a substitute. It teaches us the same lesson, but painlessly, humanly and humanely. Logic teaches us how to avoid false steps in our reasoning, how to *reason correctly*.

2. It may be well at the outset to contrast *doctrine* and *method*. Suppose a scientist takes it into his head to examine all objects through a yellow glass: that is a method of research. He now announces to an expectant world that all objects are yellow: that is a doctrine. Method then is a way to arrive at a doctrine.

Method in general may be defined as the *order* to be observed in a series of actions so that a definite goal (purpose) be attained.

Wherever a definite goal is to be attained by a series of actions, method is of supreme importance. Method is necessary to build a bungalow, to turn out a Stetson shoe, to bake

biscuits. Without some method, such things could not be accomplished.

Methods are neither true nor false; they are either good or bad. A *good* method is one by which the desired goal is attained securely and easily; if the method be such that the desired goal cannot be attained at all or only with great difficulty, it is called *bad*. It would be a bad method to look for the human soul with a microscope.

Logic is essentially a treatise on method. The goal, however, is not the making of bungalows or shoes or biscuits, but *correctness of thought*, that is, of the conclusions of our reasoning process. Nor are the actions to be ordered correctly manipulations of the hand, but the *operations of the mind* involved in reasoning.

3. *Science* may refer to doctrine or method or both. As doctrine, science is an orderly synthesis of truths concerning one subject. As method, science is the carefully controlled sequence of operations necessary to attain the goal.

The ultimate goal of all study is the orderly synthesis of all our concepts. For, order being the supreme law of reality, it must also be the supreme goal of our intellectual endeavors; as a matter of fact, we are not satisfied unless our knowledge is orderly and systematic. A system or synthesis may, of course, be coherent in itself and yet be false; but this does not destroy the supreme scientific value of a true system.

Scholastics distinguish between the *material* and the *formal* object of a science. The material object is the whole range of things with which the science is concerned; the formal object is the viewpoint from which they are studied.

As is clear from the definition, the material object of logic is *reasoning*, its formal object *correctness*.

4. *Art* is the habit of doing a complex operation easily and correctly; e.g. playing the piano. Logic as an art then

should create in the student the *habit* of reasoning correctly. In fact, studying a text-book of logic is of little use unless the student acquires the life-long habit of reasoning correctly himself and of analyzing the reasonings of other people as to their soundness and correctness. This supposes exercise, practice, unceasing drill, relentless self-correction.

5. The ordinary process of reasoning consists in this that, two propositions being known, a third is derived (inferred) from them; e.g. all men are born in original sin; now John is a man; therefore he was born in original sin. Correctness in reasoning consists in joining three propositions so that, two being granted, the third must also be granted.

However, before we can be sure that our conclusion is true, we must make sure that we understand fully what the single propositions mean or imply. Hence logic treats not only of the reasoning process as such, but also of the nature of propositions, and determines the exact meaning of different kinds of propositions.

Moreover, to make sure that we understand the full import of the single propositions, we must be sure that we understand the parts of which they are made up. These parts are, in categorical propositions, called terms. Hence logic also treats of terms.

These two parts are, however, subsidiary and preparatory.

Lastly, the search for the truth is often very complicated and implies a long series of steps, as when we want to find out what a certain chemical substance is. In this search we must be methodical. Logic also gives us a few general rules to be followed in the search of all truth.

Hence we shall divide this treatise into four parts:

**1. The Term**

**3. Reasoning**

**2. The Proposition**

**4. Method**

# Part I

## THE TERM

The categorical proposition consists of two terms: the subject and the predicate. Thus if I say: man is mortal, the two terms "man" and "mortal" are joined by the verb "to be."

Now before pronouncing a proposition like this, I had already pronounced it in my mind, as it were. This internal act of the mind is called a judgment. It is only after formulating a judgment in our mind, that we utter it to those with whom we speak. To act otherwise, i.e. to talk before we think, would be silly.

But how do judgments come about in our minds? What do they *suppose* logically to have preceded in our mind?

A judgment supposes logically three steps:

a. There must be *two ideas*, viz. the subject (S) and the predicate (P). That is to say, I must know what my subject stands for and what is meant by my predicate. How indeed could I pronounce the above judgment even in my mind, unless I knew beforehand what is meant by "man" and what by "mortal."

b. But two ideas or terms juxtaposed do not make a judgment. The judgment further supposes a *comparison* between them, to see if they are to be joined or separated, to see if I ought to say that man is mortal, or that man is not mortal.

c. Lastly, the judgment supposes *insight* into the mutual relation between S and P. Else we judge blindly.

For the present, however, we are only concerned with the fact that the two terms of a proposition correspond to two ideas in the mind. Hence before considering terms proper, we shall first speak of ideas or concepts.

## I. IDEAS

### 1. DEFINITION

1. An idea or concept, considered subjectively, is an *act* of the mind by which we conceive something; considered objectively, it is *that which* we conceive by such an act.<sup>1</sup>

Three important remarks:

a. Conceiving, in scholastic terminology, is not the same as seeing with our eyes or hearing with our ears; nor is it imagining; nor may it be used synonymously for any of these acts. Conceiving is an act of the *intellect*, a spiritual faculty (as will be proved in psychology). The differences will be discussed further in epistemology (thesis 8).

b. The two aspects, the subjective and the objective, are *essential* to every cognition. You cannot have one without the other—just as you cannot have a sale without a purchase. Still, it is impossible to give one definition that would cover both aspects; their natures differ too much.

c. Logic deals primarily with *objective* ideas; ideas as acts of the mind pertain to the subject-matter of psychology.

2. The act of conceiving something is also called a *simple apprehension*. It differs, however, slightly from the idea. Simple apprehension is the *process* by which we acquire ideas or concepts; ideas or concepts are the result of such processes.

The student must not be misled by the name 'simple apprehension.' Logicians call it 'simple' merely in opposition to the judgment, in which the mind combines or separates two ideas. The process by which we gain so-called primitive ideas, is indeed simple and easy; but much labor is needed to acquire others, especially systematic ideas.

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<sup>1</sup>While in ordinary usage "concept" (or "conception") fairly corresponds to the scholastic definition given above, the English word "idea" is today very ambiguous (see Dict.). In scholastic terminology they are synonymous.



3. The *comprehension* (or *connotation*) of an idea is the sum-total of the notes which constitute the (objective) idea; e.g. the concept of 'man' is made up of 'animal' and 'rational.'<sup>1</sup> The *extension* (or *denotation*) of an idea is the sum-total of the things of which that idea can be predicated; the extension of 'man' are all men. The things of which an idea can be predicated are called its '*inferiors*.'

*Rule:* The greater the comprehension of an idea, the less its extension—and vice versa.

## 2. DIVISION

### 1. As regards comprehension:

A *simple* idea contains only one note, i.e. it cannot be further analyzed or reduced to simpler concepts. Such are the concepts of being, substance, essence etc.—A *composite* idea contains several notes. Thus the concept of man contains the following notes: rational, sentient, living, substance, etc.

A *clear* idea of a thing contains so many notes that it can be distinguished from everything else; if an idea does not contain enough notes for that, it is called *confused*.—An idea is *distinct* if at least some of the notes of the thing can be enumerated; else the idea is *obscure*.

### 2. As regards extension:

a. A *universal* (general) idea is one which can be predicated of every individual of a class; e.g. 'man' can be predicated of Peter, Paul, John, etc., in fact of *all* men, whether past, present or future.

As this is one of the most fundamental concepts of scholastic philosophy, the following explanations will not be deemed superfluous.

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<sup>1</sup>In every-day usage, however, connotation means something *beyond* the constituent elements; e.g. "home" connotes comfort.

Universal ideas are *abstract*. That is, they omit the individuality with which their inferiors are vested in reality.

A universal idea is often defined as one which expresses something common to many, "*one in many*" (*unum in multis*). The definition is acceptable, but it must be understood rightly; viz. (a) the preposition '*in*' means predicability in the nominative case (*in recto*); (b) the term '*many*' must be understood as 'all of a class'; (c) above all, the '*one thing*' must express an essential and absolutely necessary element of each of the class; in fact, the term '*note*,' used in the above definitions, means primarily an essential element, a constituent part.

Scholastics carefully distinguish between (a) universal concepts, (b) analogous concepts, (c) the concept of God as known through revelation. The (intrinsically) *analogous* concept, though one, is not predicated of many in exactly the same sense, whereas the universal concept is. The concept of *God* is not predicated of the three persons of the Bl. Trinity so that there would be three Gods: a universal concept is predicated of many so that they constitute a number and can be counted.

A strictly *universal* concept, therefore, is defined by Scholastics as "one thing capable of being predicated of many in the same sense and of being multiplied in them."

Abstraction can be carried one step further. Thus in "man" we may distinguish between manhood (humanity), i.e. that which makes a man a man, and the one who has manhood. Scholastics call the former the *form*, the latter the *subject*. Accordingly, an abstract concept may mean only the form or the subject with the form. We speak now only of the latter, because these alone can serve as predicates in the nominative case (*in recto*); e.g. John is a man.

Scholastics further distinguish between *direct* and *reflex* universal ideas. But this distinction had better be reserved for a later chapter (see p. 96-7).

b. A *particular* idea is a universal idea restricted to an indefinite part of its extension; e.g. some man, some men.

c. A *singular* idea is one which denotes a definite individual; e.g. John Briggs, this book, the house in which I live, my automobile.

d. A *collective* idea expresses many together; e.g. a family, an army, a crowd.—Note that a collective idea may again be universal or particular or singular; e.g. family, some family, this family.

### 3. RELATION OF IDEAS

There may, of course, be various kinds of relations between ideas. But in the categorical proposition, the model-form of our sentences, we consider only two: *identity* and *diversity*. We say either 'is' or 'is not.' By the former we express identity between S and P, by the latter diversity.

However, both identity and diversity may be either formal or objective.

Two ideas are *formally* identical or diverse, according as they have the same notes (comprehension) or not. Two ideas are *objectively* identical or diverse, according as they are found in the same individual or not.

Moreover, both identity and diversity may be *complete* or *partial*. Thus between 'man' and 'rational animal' there exists formal and complete identity; but between 'man' and 'animal' the identity is indeed formal, but only partial. The identity between 'Peter' and 'white' is objective and partial

## II. TERMS

### 1. DEFINITION

Terms are the parts which immediately constitute a simple proposition. In the categorical proposition, they are S and P.

Terms are words, and signify something. By them we ordinarily manifest our thoughts to others. Hence it is customary with logicians to insert here a few remarks about signs, words, speech.

1. A *sign* is something which leads us to know something else; e.g. the wooden Indian before a cigar store. There are various kinds of signs:

a. A *natural* sign is one which signifies something else by its very nature; e.g. a groan signifies pain; a blush signifies shame, etc.—An *arbitrary* sign is one which signifies through the free institution of man or God; e.g. the flag signifies the country.<sup>1</sup>

b. Some signs merely indicate the existence of something else; thus the wooden Indian. Other signs stand for the thing signified; e.g. the keys of the city, which are handed over to the conqueror.

2. A *word* is an articulate sound signifying something.—*Speech* is a connected series of words.

Though speech is natural to man, yet the words used are *arbitrary* signs: else there would be no difficulty in understanding a foreign language. Moreover, words indicate the existence of the corresponding idea, but they stand for the things themselves. As Suarez says: The teacher uses words, because he cannot take the things themselves into the school-room.

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<sup>1</sup>There are also signs which are partly natural and partly arbitrary; e.g. the sacraments.

## 2. DIVISION

## 1. As regards comprehension:

A *simple* term consists of only one word (article not counted). A *complex* term consists of more than one word; e.g. the book I gave you.

A complex term contains two parts: a *noun* and its *modifier*. The modifier either restricts the extension of the noun (e.g. the book I gave you), or it merely explains the noun without restricting its extension (e.g. mortal man).

## 2. As regards extension:

A *common* term is the name (word) applicable to each of a group of individuals; e.g. tree, man.—A *proper* term is the name proper to an individual; e.g. Julius Caesar.

A common term may or may not be modified. If it is not modified it is called an *indefinite* term, because its extension is not at once evident; e.g. tree, a tree. If it is modified, we have:

- a. *Universal* (general) terms: e.g. all men, every man, no man, nobody.
- b. *Particular* terms: e.g. some man, some men, somebody.
- c. *Singular* terms: e.g. this man, the man I saw yesterday.
- d. *Collective* terms: all men together.

## 3. As regards definiteness of meaning:

A *univocal* term is predicated of many in exactly the same sense; as when I say: Peter is a man; Paul is a man. The term 'man' is used in exactly the same sense in both propositions.—An *equivocal* term is predicated of many in an entirely different sense; as when I say: the robin is a bird; Peter is a bird; the term 'bird' is used in meanings altogether different.—Lastly, an *analogous* term is predicated of many in a sense partly the same and partly different; as when we speak of the foot of a man and the foot of a mountain.

Almost any word may be used univocally or equivocally or analogously. Hence if asked whether a certain word is one or the other, first inquire of which things it is to be predicated. Thus the word "bird" is predicated univocally of a robin and a sparrow.

### 3. SUPPOSITION OF TERMS

#### 1. Definition

The supposition of a term is the *definite meaning* which a given term has in a given proposition.

Every term, even when used univocally, may be taken in various meanings (as will appear presently from the divisions). Now, in reasoning we want to arrive at a very definite conclusion; but this is impossible unless each proposition and each term has an absolutely definite meaning. Besides, each term occurs twice in the regular process of reasoning (as we shall see), and we must be very careful to use it both times in the same sense; else the whole process of reasoning is vitiated.

Hence the exceeding importance of this (difficult) chapter.

#### 2. Divisions

There are first of all two divisions of supposition, which, however, rarely mislead one, because the change from one to the other would be too glaring. (a) A term may be taken in its *proper* sense or *metaphorically*. Thus if I were to argue: All birds have feathers; but Peter is a bird; therefore Peter has feathers: the term 'bird' would be used once in its proper sense and once metaphorically. (b) A term may be taken *materially* (i.e. for the word itself) or *formally* (i.e. for that which it signifies). Thus when I say: Cicero is a word of three syllables, I use 'Cicero' in the material supposition; but when I say: Cicero was a great orator, I use it in the formal supposition.

The following divisions refer to proper and formal supposition only. They are of greater importance for logic,

because the danger of changing inadvertently from one to the other is greater.

a. *Real* and *logical* supposition:

A term is said to have real supposition if used for the thing as it is in itself; e.g. Peter is a man; man is an animal —A term is said to have logical supposition if used for the thing as it can only be in the mind; e.g. man is a species.<sup>1</sup>

The further divisions refer only to real supposition.

b. The supposition of a term is *absolute* or *personal*, according as it refers to the comprehension or extension. The choice often depends on the intention of the speaker. If he attends to the notes contained in the idea expressed by the term, he uses the term in absolute supposition; if he attends to the individuals of which the term may be predicated, he uses it in personal supposition.

Note that the expression 'personal' is a trifle misleading. Also terms which do not refer to persons at all, may be used in personal supposition; e.g. all trees, all horses.

c. Personal supposition of common terms:

A common term, when used in personal supposition, either stands for all its inferiors or for only a part of them. In the former case, the supposition is called *universal*, in the latter *particular*. Modifiers indicating universal supposition are: all, every, any, each, none; e.g. all men are mortal; no metal has life. Modifiers indicating particular supposition are: some, a or an; e.g. some men are deceitful; a man was shot.

But both universal and particular supposition may again be subdivided:

(a) A term with universal supposition may be used either *distributively* or *collectively*, according as it stands for each single individual or for all together; e.g. all men are mortal; all men (together) are mankind.

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<sup>1</sup>This division will be better understood after the reflex universal (p. 96-7) has been mastered.

(b) A term which has particular supposition, may stand either for a *definite* or an *indefinite* part of its inferiors; e.g. a train was wrecked; a train is necessary to get to New York.<sup>1</sup>

Compare the meanings which the word '*universal*' has, according as it refers to a concept, a term, or the supposition.

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'The word '*God*', when it stands for all three Persons, has a quasi-universal supposition; e.g. God is all-wise. But if it stands for only one of the three Persons, it has a quasi-particular supposition; e.g. God died for us.



## PART 2

# THE PROPOSITION

### 1. Definitions

a. A proposition is a *complete assertion*; e.g. John is an engineer; baseball is a major sport. An incomplete assertion is one which does not make complete sense; e.g. while John was asleep.

Any book that we read, all our conversation is made up of *sentences*. As trees make the forest, as houses make the city, so sentences make the book and the speech. They are the ultimate units; for each sentence expresses one, indivisible thought.

But not all sentences are alike. Take any of Shakespeare's dramas, and you will read there all kinds of sentences. Some assert, some contain a wish or a command, some are merely an exclamation or greeting. Now Logic deals only with *assertions*. The reason is this. The material object of logic is reasoning; now reasoning is a purely intellectual process, whereas wishes, commands, etc., contain emotions and affections of the will, which are wholly outside the sphere of logic.

b. The proposition may also be defined as the *external manifestation of a judgment*.

The judgment, taken subjectively, is an act of the mind by which we affirm or deny something; e.g. man is mortal; this book is not mine. The judgment, taken objectively, is something which can be affirmed or denied (which is true or false); it may also be defined as the *relation existing between two terms*.<sup>1</sup>

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<sup>1</sup>Read Gruender, Exper. Psych. p. 359-363.

c. What was said above (p. 51) about ideas, also applies here. Logic is concerned primarily with *objective* judgments, only indirectly with judgments as acts of the mind.

## 2. Division

That which is affirmed or denied in a judgment, is always a *relation* between two (objective) ideas. But this relation may be (a) one of identity or diversity, (b) some other relation, especially one of dependence. Accordingly, logicians divide judgments and propositions into two principal classes: categorical and hypothetical.

# The Categorical Proposition

## I. DEFINITION

A categorical proposition is one which asserts the *identity* (or *diversity*) of two objective concepts. The identity (or diversity) asserted may be either formal or merely objective, complete or partial. In definitions, it is always formal.

A categorical proposition contains *three elements*: (a) the subject, i.e. that of which something is asserted; (b) the predicate, i.e. that which is asserted of the subject; (c) the copula, which expresses the relation between S and P.

The Scholastics call S and P the *matter* of the proposition, while the copula is the *form*.

In a strictly logical proposition, the copula is always the verb '*to be*' in the *present tense* and in the *indicative* mood. The reason is that this alone expresses identity (or diversity) and nothing else. Hence, if in reasoning a proposition occurs which is not made in this manner, we must first change it into one which clearly contains the three elements; e.g. Peter walks=Peter is walking; Caesar defeated the Gauls=Caesar is one who defeated the Gauls. As is clear from these examples, this same process is necessary to know what precisely is the predicate (P). Thus in the proposition "Peter walks" the predicate is not 'walks,' but 'walking.'

In every-day usage, we often employ the verb 'to be' where it does not express mere identity, but implies some *further* relation between two concepts. Thus when we say that "two times two is four," the verb 'is' really means 'is equal to,' 'is equivalent to.' The same holds for algebraic formulas.<sup>1</sup> Likewise,

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<sup>1</sup>For this reason, so-called "symbolic" Logic differs fundamentally from "traditional" Logic; nor can it ever become a substitute for the latter. Also it excludes a priori whatever is shorn of quantity, and that means the whole of metaphysics and anything spiritual. See *Joyce* p. 146; *Lahr* I p. 509.

when the chemist says that salt is NaCl, he means that salt originates out of Na and Cl and may again be decomposed into them; if he meant to express pure identity, he would go beyond his evidence.

### Logical Use of Propositions:

In the process of reasoning, as standardized by Aristotle and the Scholastics, attention is chiefly paid to two things: (a) the *extension* of the *terms* employed; (b) the *quality* and *quantity* of the *propositions*. Hence this chapter is of fundamental importance in logic.

a. The *quality* of a proposition depends on its copula. A proposition is affirmative or negative, according as the copula is 'is' or 'is not.'

Moreover, from the quality of a proposition we can figure out the extension of its *predicate*. To wit: (a) the predicate of an affirmative proposition has *particular* supposition (except in complete definitions, in which P is universal); (b) the predicate of a negative proposition has *universal* (distributive) supposition.

b. The *quantity* of a proposition depends on the extension of its subject. A proposition is singular, if its subject is a singular or proper term; e.g. this man is a crook; Peter died.—A proposition is universal, if its subject is a universal term; e.g. all men are mortal.—A proposition is particular, if its subject is a particular term; e.g. a train was wrecked.

c. Combining the two aspects of quality and quantity, the Scholastics designated the various propositions as follows:

A universal affirmative proposition: all, every, each.

E universal negative proposition; no, none, nobody.

I particular affirmative proposition: some, somebody.

O particular negative proposition: some—not.

## II. DIVISIONS

At times, propositions contain more than one complete assertion. Now, in order to make sure that our reasoning is correct, we must know how many complete assertions are contained in the various kinds of propositions. For this reason, we shall examine them one by one.

A *simple* proposition is one in which none of the elements is modified, i.e. in which S and P are simple terms, and the copula is 'is' or 'is not.' Such a proposition evidently contains only one assertion.

Other propositions are: complex, compound, modal. These must be taken up in detail.

## 1. COMPLEX PROPOSITIONS

A complex proposition is one in which the subject or the predicate or both are complex terms; e.g. the book I gave you is a novel by Isabel Clark.

Now a complex term, as we saw, consists of two parts: the subject and its modifier; moreover, the modifier may be restrictive or explanatory. Hence the following division:

a. A *restrictive* proposition is one whose subject is a common term restricted to a definite part of its extension; e.g. the book I gave you is a novel.—This is really a single assertion.

b. An *explicative* proposition is one whose subject is a common term modified by an explanation; e.g. mortal man is subject to many ills.—This is really equivalent to two assertions: (a) man is mortal; (b) man is subject to many ills.

This last example shows us what the Scholastics mean by *distinguishing* a proposition. A distinction brings out the two assertions contained in an apparently simple assertion which seems half true and half false. The distinction grants the part which is true, but denies the part which is false. Apply this also to the following divisions.

## 2. COMPOUND PROPOSITIONS

A compound proposition is one which contains several subjects or several predicates. Accordingly, a compound proposition contains really several assertions. But this may be more or less obvious; hence logicians divide compound propositions into two principal classes:

1. Propositions in which the composition is *obvious*:

a. A *copulative* proposition is one in which several subjects or predicates are joined by 'and' or 'neither—nor': Peter and Paul died; neither Peter nor Paul died.

b. An *adversative* proposition is one in which several subjects or predicates are joined by 'but'; e.g. Cicero was an orator, but no statesman.

Both copulative and adversative propositions contain as many assertions as there are elements joined.

2. Propositions in which the composition is *less obvious*:

a. An *exclusive* proposition is one in which S or P is modified by 'only,' 'alone,' etc.; e.g. God alone is omnipotent; John is only an engineer.

Exclusive propositions, though apparently simple, really contain two assertions: one affirmative, the other negative; e.g. God alone is omnipotent = God is omnipotent, and no other being is omnipotent; John is only an engineer = John is an engineer, and he is nothing else.

b. An *exceptive* proposition is one in which the subject is modified by 'except,' 'with the exception of' etc.; e.g. all animals, except man, are irrational.

Exceptive propositions contain two assertions: one negative, the other affirmative; e.g. all animals, except man, are irrational = (a) man is not irrational, (b) all other animals are irrational.

c. A *comparative* proposition is one in which the predicate is affirmed (or denied) of one subject in a greater or lesser degree than of another; e.g. Plato is wiser than Socrates.—Another form of the comparative proposition is

the one in which the predicate is affirmed (or denied) of both subjects in the same degree; e.g. Plato is as wise as Socrates.

A comparative proposition really contains three assertions; e.g. Plato is wiser than Socrates = (a) Plato is wise, (b) Socrates is wise, (c) the wisdom of Plato is greater than that of Socrates. Ordinarily, however, the first two are understood, or else the proposition is silly. Comparative propositions may then be regarded as *simple*.

### 3. MODAL PROPOSITIONS

a. A modal proposition is one which distinctly enunciates what *kind* of identity (or diversity) there is between S and P. There are four such modes: necessary, contingent, possible, impossible. *Necessary* is that which cannot be otherwise (must be so); e.g. God is necessarily just.—*Contingent* is that which can be otherwise; e.g. the world exists contingently.—*Possible* is that which can be; e.g. it is possible for Peter to fall.—*Impossible* is that which cannot be; e.g. it is impossible for water to flow uphill.

A proposition, to be modal, must enunciate the mode distinctly and *explicitly*. But this may be done in various ways; e.g. it is necessary that God be just—God is necessarily just—it is necessary for God to be just—God cannot but be just etc.

b. *Quality* and *Quantity* of Modal Propositions:

A modal proposition is *affirmative* or *negative* according as the mode is affirmed or denied; e.g. it is impossible for a square to be round; it is not impossible that the world be annihilated.—A modal proposition whose mode is either 'necessary' or 'impossible' is considered as a *universal* proposition, because it is true for all and always.—A modal proposition whose mode is 'contingent' or 'possible' is considered as a *particular* proposition.

c. *Number* of Assertions: A modal proposition consists of two assertions, unless the mode be 'possible.' In the latter case, it contains only one assertion.

# The Hypothetical Proposition

## I. DEFINITION

A hypothetical proposition is one between the parts of which there exists a relation of *dependence*, *opposition*, *likeness* etc.

Therefore hypothetical propositions differ from categorical both in matter and form. (a) The *matter* of a hypothetical proposition is not S and P, but the parts between which such a relation is asserted. (b) The *form* is not identity or diversity expressed by the copula, but some other relation indicated by the conjunctive particles.

The hypothetical proposition as such contains *only one* assertion.

## II. DIVISIONS

1. A *conditional* proposition is one in which two parts are joined by 'if,' 'unless' etc.; e.g. if it had rained last night, the road would be wet; unless his temperature goes down, he will die.

The part introduced by 'if' is called the *antecedent*, the other part the *consequent*. Hence the conditional proposition may also be defined as one which asserts the dependence of consequent upon antecedent.

This dependence is always *logical*, i.e. we always pass from the antecedent to the consequent in our thought and speech. But sometimes it is merely logical, at other times it is also *real*, i.e. when the consequent depends on the antecedent in reality. Thus if I say: If the ground is wet, it must have rained—the dependence of the consequent on the antecedent is purely logical. But if I say: If it had rained, the ground would be wet—the dependence is also real.

2. A *disjunctive* proposition is one in which the subject or the predicate consists of parts which exclude each other;



e.g. either Christ or Pilate erred; the earth is either at rest or in motion.

3. A *conjunctive* proposition is one which denies that two predicates together can be true of the same subject (at the same time); e.g. you cannot serve God and mammon; you cannot eat your cake and have it.<sup>1</sup>

4. A *relative* proposition is one in which two parts are joined by 'as—so,' 'where—there' etc.; e.g. as we live, so we shall die; where your treasure is, there also is your heart; easy come, easy go.

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<sup>1</sup>This as well as the disjunctive proposition is rather a combination of hypothetical and categorical proposition.

## PART 3

# REASONING

The process of reasoning consists in this that we pass (mentally) from one thing to another, from one proposition to another, from what is known to what is unknown. Thus from the existence of this world we may reason to the existence of God; from our actions we reason to the freedom of the will etc.

As before, so in reasoning we must distinguish between (a) the process of the mind and its external manifestation in speech, (b) between the subjective and the objective aspect of the mental process. Logic considers primarily the process of the mind and its objective aspect.

Here begins logic proper. For it is precisely the purpose of logic to insure *correctness* in the process of reasoning. Logic lays down (and proves) the *rules* which will guard us against making false steps and thus falling into error. In every-day life, we rarely heed these rules; but the result is that we often make mistakes, unless the inference is easy and obvious.<sup>1</sup>

There are two ways of passing from one proposition to another: either without or with the aid of a third proposition. Hence the usual division into immediate and mediate inference. But mediate inference is again threefold: by syllogism, by logical induction, by cumulative evidence.

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<sup>1</sup>Cf. *Lindworsky* ch. 6.

# Immediate Inference

Immediate inference, considered subjectively, is a process of the mind by which we pass from one proposition to another without the aid of a third. Objectively considered, it is the connection existing between two such propositions.

We often proceed in this manner in daily life. Thus if we know that John was in Buffalo at a specified time, we immediately infer that he was not in Boston at the same time. Logic, however, considers only such pairs of propositions in which the terms are the *same*.

There are various ways of passing thus immediately from one proposition to another. We shall consider three: Opposition, Conversion, Possibility and Existence.

## I. OPPOSITION

### 1. Definition

Opposition exists between two propositions which, having the same terms, differ in quantity or quality or both.

The terms of both propositions must also have the same *supposition*. But common terms, when used in personal supposition, need not have the same extension (as will be clear from the divisions).

### 2. Division

a. *Contradictory* opposition exists between two propositions which differ in quantity and quality; e.g. all men are white—some man is not white.

Such opposition exists between A and O, between E and I.

Contradictory opposition in the strict sense of the word exists between two propositions one of which asserts just enough to destroy the other (neither more nor less). No such contradictory opposition exists between the following pairs: (a) All men are white—no man is white; (b) all men are white—some men are not white; (c) all men are white—Peter is not white. The last two pairs are often called contradictories in a wider sense.

b. *Contrary* opposition exists between two universal propositions which differ in quality; e.g. all men are white—no man is white.

Such opposition exists between A and E.

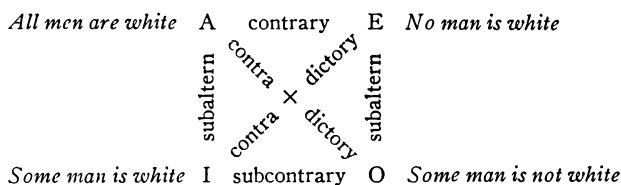
c. *Subaltern* opposition exists between two propositions which differ only in quantity; e.g. all men are white—some man is white; no man is white—some man is not white.

Such opposition exists between A and I, between E and O.

d. *Subcontrary* opposition exists between two particular propositions which differ in quality; e.g. some man is white—some man is not white.

Such opposition exists between I and O.

### Square of Opposition



### 3. Finding the Contradictory:

As is clear from a study of the square of opposition, contradictory opposition offers the widest range of immediate inference. Hence such inferences are very common among philosophers. However, it is not always easy to *find* the strict contradictory of a given proposition. The definition given above is very general; but there are some *special cases* to be considered:

a. The contradictory of a *singular* proposition is formed by merely changing the quality; e.g. Peter is sick—Peter is not sick; this is a drama—this is no drama. In like manner is formed the contradictory of a proposition whose subject has either *logical* or *absolute* supposition; e.g. man is a

species—man is not a species; brute animals have no intellect—brute animals have intellect.

b. To form the contradictory of *complex* and *compound* propositions which contain more than one assertion, deny disjunctively all single assertions; e.g. Peter and Paul died—either Peter or Paul did not die.

c. *Modal* propositions are contradicted by changing the mode to its opposite, viz. 'necessary' to 'contingent' or vice versa, 'possible' to 'impossible' or vice versa.

d. To form the contradictory of a *hypothetical* proposition, deny the relation asserted; e.g. if it had rained, the road would be wet—even if it had rained, the road would not be wet.

However, (a) to contradict a *disjunctive* proposition, we affirm a third possibility; e.g. Peter either sits or walks—Peter may neither sit nor walk. (b) To contradict *conjunctive* propositions, change 'nobody' to 'somebody'; e.g. nobody can serve God and mammon—somebody can serve God and mammon.

#### 4. Rules of Inference

a. Two (strictly) *contradictory* propositions can neither be true nor false together. Hence if one of them is true, I can at once infer that the other is false—and vice versa.

b. Two *contrary* propositions cannot be true together, but they may both be false. Hence if one of them is true, I can at once infer that the other is false—but not vice versa.

c. As regards *subaltern* propositions: (a) If the universal proposition is true, the particular is also true—but not vice versa; (b) if the particular proposition is false, the universal is also false—but not vice versa.

d. As regards *subcontrary* propositions: If one is false, the other is true—but not vice versa.<sup>1</sup>

<sup>1</sup>These rules are self-evident; their best proof consists in clarifying the terms and in apt illustrations.

## II. CONVERSION

## 1. Definition

Conversion is the process by which we transpose the subject and predicate of a proposition without changing its truth. That is, instead of saying S is P, we say P is S. As for instance: No man is a lion—no lion is a man.

*"Without changing its truth"* means that the new proposition may not assert *more* than did the one we began with. Or, to use logical terminology: the extension which a term had as S or P, may not be *increased* through the process of conversion. Or again: if a term was particular before the process of conversion, it must not become universal (distributive) through the process. Thus "all geniuses have big skulls" may not be converted into "all who have big skulls, are geniuses."

Never convert a proposition unless you have first reduced it to its logical form, i.e. with the copula inserted *explicitly*.

## 2. Division

a. *Simple conversion*: S and P are transposed without change of the extension of either; e.g. no man is a lion—no lion is a man; some boys are clever—some who are clever, are boys.

Only E and I propositions can be converted simply. However, simple conversion may be resorted to in case of A propositions which express complete definitions; e.g. all men are rational animals—all rational animals are men.

b. *Accidental conversion*: S and P are transposed, but the extension of one is lessened; e.g. all lawyers are men—some men are lawyers.

Such conversion is allowed in A and E propositions.<sup>1</sup>

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<sup>1</sup>Scholastics also mention a third kind of conversion. We omit it because it is of no practical value.

## III. POSSIBILITY AND EXISTENCE

1. The following inferences can be drawn immediately: (a) if a thing exists, it is possible; (b) if a thing is impossible, it does not exist. Thus soul and body are joined in man; therefore they can be joined. On the other hand, a square circle is impossible; therefore it does not exist anywhere.

2. But we cannot infer immediately that (a) if a thing can be, it exists, or (b) if a thing does not exist, it cannot exist. Thus another world is possible, no doubt; but from this we cannot argue immediately that it does exist. On the other hand, our earth has only one moon; but from this I cannot immediately infer that another moon is impossible.

3. The Scholastics expressed these four rules thus:

- a. Ab esse valet illatio ad posse.
- b. A non posse valet illatio ad non esse.
- c. A posse non valet illatio ad esse.
- d. A non esse non valet illatio ad non posse.

# The Syllogism

Mediate inference (reasoning in the strict sense of the word), considered subjectively, is that process of the mind by which we pass from one proposition to another with the aid of a third. Objectively, it is the connection between three such propositions.

The most perfect form of mediate inference is the *syllogism*, in which the propositions are so arranged that the connection between them becomes immediately evident. It is this we are going to study.

There are two kinds of syllogisms: categorical and hypothetical. The categorical syllogism consists of three categorical propositions; the hypothetical syllogism has a hypothetical proposition for its major premise, though the other two propositions are, as a rule, categorical.

The principal kind is, of course, the categorical syllogism; Aristotle, the founder of scientific logic, does not even discuss the other.

## I. THE CATEGORICAL SYLLOGISM

### 1. ITS NATURE AND PROPERTIES

#### 1. Definition

The categorical syllogism is a process of the mind by which we learn the identity or diversity of two objective concepts by comparing them both successively with a third.

Example: All men are mortal.

Now Peter is a man.

Therefore Peter is mortal.

*Explanation:* In every categorical judgment we assert the identity or diversity of two objective ideas. But, as we saw above, before the assertion is made, we *compare* the two



ideas with each other to see if they are or are not identical. Only after and because we have by such comparison gained an *insight* into their mutual relation, do we judge.

Now, sometimes we gain this insight by merely considering S and P; as e.g. the whole is greater than its part; this tree is green. These are called *immediate* judgments. At other times, things are not so simple. Even after maturely considering S and P we may be unable to see their mutual relation. It is then that we employ a third idea, a *middle term*, and thus hope to arrive at a conclusion. Judgments that come about in this manner, are called *mediate*.

In the above example, for instance, the question is to learn whether Peter is mortal or not. Let us suppose that we cannot settle the question by merely considering S and P, viz. 'Peter' and 'mortal.' We then take a third idea, viz. 'man,' and compare both S and P with it successively. Thus we arrive at our conclusion. (How to find the *right* idea, i.e. one that will help toward the desired conclusion, is a special chapter.)<sup>1</sup>

## 2. Matter and Form

a. The *remote matter* of the categorical syllogism are three ideas or terms: S, P and M (the middle term).—The *proximate matter* are three propositions: two premises, in which S and P are separately compared with M, and the conclusion, in which the relation seen to exist between S and P is asserted. The first premise is called the *major* premise, the second the *minor*; both together are called the *antecedent*. The conclusion is also called the *consequent*.

b. The *form* of every syllogism is the *consequence*, i.e. such a connection between premises and conclusion that if the premises are granted, the conclusion is also to be granted.

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<sup>1</sup>See *Lindworsky* ch. 7.

(*How* they must be connected, will be explained graphically under 'figures' and 'moods.')

### 3. Conclusion and Consequence

a. From the above it is evident that conclusion and consequence are not the same. The conclusion is a proposition, the consequence is a certain connection between propositions. The conclusion is the goal at which we arrive, the consequence is the correct process of arriving at the goal. The conclusion is either true or false, the consequence is either right or wrong.

b. Nevertheless, the conclusion is not a mere proposition, but a proposition *as derived* from premises. Hence it may be considered under two aspects: (a) as a proposition, and as such it is true or false; (b) as derived from the premises, and then it may also be called correct or incorrect.

Hence, if the conclusion be considered under both aspects, it may be (a) correct and true, or (b) correct and false, or (c) incorrect and true, or (d) incorrect and false.

Examples: All men are mortal.

Now Peter is a man.

Therefore Peter is mortal.

(*Correct and true*)

All men are angels.

Now Peter is a man.

Therefore Peter is an angel.

(*Correct, but false*)

All birds have feet.

Now Peter is no bird.

Therefore Peter has feet.

(*Incorrect, but true*)

All birds have wings.

Now Peter is no bird.

Therefore Peter has wings.

(*Incorrect and false*)

#### 4. Rules Concerning Truth and Falsity

Of course, the aim of all our studies is to arrive at conclusions which are both correct and true. The particular aim of logic is to aid us in arriving at *correct conclusions*. Of itself, it is not concerned with the truth of conclusions. Still, supposing that the process of reasoning is correct, the following principles may be laid down concerning the relation between the truth of premises and conclusions:

- a. If the antecedent is true, the conclusion must also be true.
- b. If the antecedent is false, the conclusion may be true or false.
- c. If the conclusion is true, the antecedent may be true or false.<sup>1</sup>
- d. If the conclusion is false, the antecedent must be false.

#### 2. RULES OF THE CATEGORICAL SYLLOGISM

##### a. *Concerning the Terms (S, P, M)*

**1. No syllogism may contain more than three terms (ideas).** The reason for this rule is evident from the definition of the categorical syllogism, which consists in this that two ideas are successively compared with the same third.

Therefore no syllogism may have four terms. Now there are also four terms when a word is used in two different meanings; e.g. all birds have wings; now Peter is a bird; therefore Peter has wings. This is wrong, because M is used in two different meanings.

**2. No term may have a greater extension in the conclusion than it had in the premises.** In other words, if S or P is particular in the premises, it cannot become universal in the conclusion. For, what is true of the particular, is not necessarily true of the universal; e.g. if some men are white, it does not follow that all men are white.

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<sup>1</sup>This and the preceding rule may occasion surprise. How can truth flow from error? How can error lead to truth? St. Thomas solves the difficulty by a distinction: "Non contingit sciri ex falsis, etsi concludi possit ex eis" (In Post. Anal. I lectio 4). The false antecedent is not the *logical* reason for the true conclusion, nor does the syllogism *prove* the conclusion true. But if we lay down the premises and stick to them, the conclusion follows because it is implied in them. Cf. Tonquédec, *La Critique de la Connaissance* p. 410-413, 432-435.

**3. The middle term may not occur in the conclusion.**

For the middle term is only a stepping-stone, a scaffolding to help in erecting the building. What we want to know, is the identity or diversity of S and P.

**4. The middle term must at least once have universal (distributive) supposition.** Otherwise we cannot be sure that we compare S and P with the *same* M.

This is by far the most important rule. Practically it means that the major premise must be *universal*.

b. *Concerning the Propositions (A, E, I, O)*

**5. If both premises are affirmative, the conclusion, too, must be affirmative.**

Proof: If both premises are affirmative, S and P are *identical* with M. We must conclude then that they are *identical* among themselves. But identity is expressed by affirmation ('is'). Therefore, if both premises are affirmative, the conclusion cannot be negative.

**6. If either premise is negative, the conclusion, too, must be negative.**

Proof: If either premise is negative, then either S or P *differs* from M. Therefore S and P must differ among themselves. Now difference is expressed by a negative proposition ('is not').

**7. If either premise is particular, the conclusion, too, must be particular.** For otherwise S would have greater extension in the conclusion than in the premises (against Rule 2).

**8. Nothing follows from two negative or particular premises.**

Proof: a. If both premises are *negative*, they assert that neither S nor P is identical with M. But that tells us nothing whatever about the relation which exists between S and P.—To illustrate: If I have only a 6-foot measure, and I find

that it fits neither Peter nor Paul, I do not know whether Peter and Paul are equally tall or not.

b. If both premises are *particular*, either both are affirmative or both are negative or one is affirmative and the other negative. Now (a) if both are affirmative, all terms will be particular (against Rule 4). (b) If both are negative, there is no conclusion at all (first part of Rule 8). (c) If one premise is affirmative, the other negative, the conclusion would have to be negative (Rule 6). That means that P would have to be a universal term in the conclusion, and hence also in the premises (Rule 2). But M must also be universal, at least once (Rule 4). Now under the conditions assumed, there is room for only one universal term. Therefore no syllogism is possible with two particular premises.

### 3. FIGURES

The figure of a syllogism is the proper arrangement of M. ('Proper' means so that the right conclusion necessarily follows from the premises.)

There are *three figures*:

M — P	P — M	M — P
S — M	S — M	M — S
<hr/>	<hr/>	<hr/>
S — P	S — P	S — P

In other words: In the first figure, M is subject in the major and predicate in the minor; in the second figure, M is predicate in both premises; in the third figure, M is subject in both premises.

#### *Special Rules for the Figures*

##### 1. FOR THE FIRST FIGURE:

**The minor must be affirmative, the major universal.**

Proof: a. If the minor in the first figure were negative, the conclusion would also have to be negative (Rule 6).

Then P would be universal in the conclusion, and therefore would also have to be universal in the major (Rule 2). But that could only be if the major, too, were negative. Therefore, if the minor in the first figure were negative, both premises would be negative (against Rule 8).

b. If the major in the first figure were particular, M would be particular in the major. Now M must be particular in the minor, by the first part of this rule. Therefore if the major in the first figure were particular, M would be twice particular (against Rule 4).

## 2. FOR THE SECOND FIGURE:

**One premise must be negative, the major universal.**

Proof: a. If neither premise were negative, M would be twice particular (against Rule 4).

b. Seeing that one premise must be negative, the conclusion, too, will be negative (Rule 6). Then P will be universal in the conclusion, and consequently must be universal in the major (Rule 2).

## 3. FOR THE THIRD FIGURE:

**The minor must be affirmative, the conclusion particular.**

Proof: a. The same as in the first figure.

b. If the minor is affirmative, S will be particular in the premises; therefore it cannot be universal in the conclusion (Rule 2).

## 4. MOODS

The mood of a syllogism is the proper arrangement of the premises according to quantity and quality.

Therefore, as the figure of a syllogism refers to the place which M must occupy—so the moods refer to the propositions; not to their place (which is settled by the figures), but to their *quantity* and *quality*. In other words, the moods of the syllogism tell us whether the premises are to be universal or particular, affirmative or negative.

There are 14 legitimate moods. Scholastics designated them by words, the vowels of which indicate the nature of the premise (see p. 63):

FIRST FIGURE: Barbara, Celarent, Darii, Ferio.

SECOND FIGURE: Cesare, Camestres, Festino, Baroco.

THIRD FIGURE: Darapti, Felapton, Disamis, Datisi, Bo-cardo, Ferison.

The practical advantage of the figures and moods lies in this that they visibly express the eight general rules of the syllogism and that they supply us with an easy means of examining any categorical syllogism as to its correctness.

The principal moods are, of course, those of the first figure. They should be practised thoroughly. The moods of the other figures are less evident; but their correctness may be shown by "reducing" them to the moods of the first figure.<sup>1</sup>

### EXAMPLES OF MOODS AND FIGURES

#### First Figure

##### BARBARA

All men are rational.  
All Negroes are men.  
All Negroes are rational.

##### DARII

All dogs bark.  
Fido is a dog.  
Fido barks.

##### CELARENT

No man is without a soul.  
All Indians are men.  
No Indian is without a soul.

##### FERIO

No man is a lion.  
Some animals are men.  
Some animals are not lions.

#### Second Figure

##### CESARE

No dog has wings.  
All turkeys have wings.  
No turkey is a dog.

##### FESTINO

No plant feels.  
Some fish feels.  
Some fish is not a plant.

##### CAMESTRES

All men are rational.  
No monkey is rational.  
No monkey is a man.

##### BAROCO

All fishes can swim.  
Some birds cannot swim.  
Some birds are not fishes.

#### Third Figure

##### DARAPTI

All men are rational.  
All men are animals.  
Some animals are rational.

##### FELAPTON

No man is a lion.  
All men are animals.  
Some animals are not lions.

<sup>1</sup>See *Joyce* p. 182-186; *Coffey*, Log. I p. 335-344.

## DJSAMIS

Some lawyers are crafty.  
All lawyers are men.  
Some men are crafty.

## DATISI

All lawyers are men.  
Some lawyers are crafty.  
Some men are crafty.

## BOCARDO

Some horses are not useful.  
All horses are animals.  
Some animals are not useful.

## FERISON

No dog has wings.  
Some dogs are collies.  
Some collies have no wings.

## II. THE HYPOTHETICAL SYLLOGISM

## 1. THE CONDITIONAL SYLLOGISM

1. A conditional syllogism is one whose major is a conditional proposition; e.g. if the patient sleeps, he will recover; now he sleeps; therefore he will recover. (Note that both the minor and the conclusion are categorical propositions.)

The conditional syllogism has *two moods*:

a. If the antecedent is granted in the minor, the consequent is to be granted in the conclusion (as in the above example).

b. If the consequent is denied in the minor, the antecedent is to be denied in the conclusion; e.g. if it had rained, the road would be wet; now the road is not wet; therefore it did not rain.

The so-called "*fallacy of the consequent*" consists in mixing up the two moods, i.e. either (a) first granting the consequent and then the antecedent, or (b) first denying the antecedent and then the consequent.

2. Another kind of conditional syllogism consists of *three* conditional propositions; e.g. if it rains, the ice on the pond will melt; now if the ice melts, we cannot go skating; therefore if it rains, we cannot go skating.

## 2. THE DISJUNCTIVE SYLLOGISM

A disjunctive syllogism is one whose major is a disjunctive proposition; e.g. either Christ or Pilate erred; now



Christ did not err; therefore Pilate erred. (Note again that both the minor and the conclusion are categorical propositions.)

The disjunctive syllogism has *two moods*:

a. Affirm one part of the disjunction in the minor and deny the other in the conclusion; e.g. the earth is either at rest or in motion; now the earth is in motion; therefore it is not at rest.

b. Deny one part of the disjunction in the minor and affirm the other in the conclusion; e.g. the earth is either at rest or in motion; now the earth is not at rest; therefore it is in motion.

### *The Dilemma*

Like the disjunctive syllogism, the dilemma also starts with a disjunctive proposition; its two parts are then called the 'horns' of the dilemma. But the dilemma proceeds differently from the disjunctive syllogism. Its *minor* shows that, no matter which horn the opponent chooses, he is wrong. Thus Our Lord, when rebuking the soldier who had struck him, argued thus: I have spoken either right or wrong; if I have spoken right, why strikest thou me? If I spoke wrong, prove it.

## 3. THE CONJUNCTIVE SYLLOGISM

A conjunctive syllogism is one whose major is a conjunctive proposition.

There is only *one mood*: Affirm one member in the minor and deny the other in the conclusion; e.g. nobody can read and sleep at the same time; now Peter sleeps; therefore he does not read.

## III. OTHER FORMS OF INFERENCE

1. An *enthymeme* is a syllogism in which either one of the premises or the conclusion is omitted; e.g. God is holy; therefore He hates sin. Here the major is omitted: Whoever is holy, hates sin; or: if God is holy, He hates sin.

The enthymeme therefore differs from immediate inference; the former contains *three* terms fully stated, the latter only two.

2. A *polysyllogism* or *chain of reasoning* is a number of syllogisms so joined together that the conclusion of one syllogism always serves as a premise of the next.

3. The *sorites* is an abbreviated polysyllogism. It consists of more than three propositions so joined together that the predicate of one always becomes the subject of the next; in the conclusion then the subject of the first proposition is joined to the predicate of the last.

Example: The human soul is rational.

Now what is rational, is spiritual.

Now what is spiritual, is also immortal.

Therefore the human soul is immortal.

# Induction

I. Induction in Logic is the opposite of deduction. Whereas deduction proceeds from a universal to another universal or to a particular (as we saw in the syllogism), induction proceeds *from the particular to the universal*. Thus, having observed *some* pieces of iron sinking in water, we thence infer that *all* iron sinks in water.

Induction is called *complete* when all particular instances have been observed; if not all have been observed and yet a universal conclusion is drawn, the induction is called *incomplete*, as in the example given.

Complete induction is of little scientific value. First of all, it can *rarely* be had. Secondly, it does not lead *per se* to strictly universal propositions; for it tells us merely that a thing is so, not that it *must be so*.<sup>1</sup>

Hence we speak chiefly of *incomplete* induction.

The purpose of induction is twofold: (a) to establish the *laws* which govern this universe (physical laws in a wide sense) and even man's free actions (moral laws); (b) to find the *properties* of things, eventually the *natural classes* (species, genera etc.) into which the objects of nature are divided.

II. The process of induction comprises four steps:

## 1. Observation and Experiment

The first step is the gathering of particular facts. The first question must be: What has happened? What is there to explain? It were idle to speculate why the moon is made of green cheese; it would have been idle for Theobald Smith to look for the cause of Texas fever if cattle had never been infected with this disease.

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<sup>1</sup>See *Coffey*, Log. II p. 27-32.

Now there are two methods of gathering facts: observation and experiment. We observe, as accurately as possible, an object or event in definite circumstances, paying, of course, special attention to that aspect in which we are interested. In experimentation we produce or vary the object or event to be studied, as in the chemical laboratory.<sup>1</sup>

Scientific observation demands that the data of observation be expressed in definite numbers (so many feet, so many grams, so many degrees etc.). But scientific observation is possible even where this demand cannot be met; e.g. in human emotions, passions etc. The scientific observation of our own internal acts is called *introspection*.

## 2. Hypothesis

The second step in induction is the formulation of a hypothesis, an attempt at an explanation of what has been observed. We suspect and *provisionally suppose* something that we hope will explain the facts.

Logicians distinguish three kinds of hypotheses:

a. *Descriptive hypothesis* is an attempt at an exact quantitative formula of the facts observed. Its aim is to describe the facts with mathematical precision. The result is called an "empirical law"; as e.g. in astronomy Kepler's laws of planetary motion, in optics the laws of refraction and reflection, in electricity Ohm's law, in mechanics the laws of falling bodies.

b. Hypothesis in the strict sense is *explanatory*. Whereas the descriptive law tells us how exactly things happen, the explanatory hypothesis tells us why they happen, why they must happen. We guess that this or that definite law is the cause of the phenomena in question, that this or that class of beings is a natural species.

Thus Walter Reed guessed that a certain kind of mosquito

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<sup>1</sup>Cf. *Joyce* p. 310-9; *Coffey*, Log. II p. 162-172.

and nothing else was the cause of yellow fever; Pasteur guessed that the fermentation of grapes was due to germs, and not to mere chemical action, as scientists had thought before him. Everyone knows that homing pigeons find the way to their roost from long distances. What is it that guides them so unerringly? Is it a sixth sense? Is it the pigeon's keen vision? Is it light rays or air currents, magnetic fields or radio waves?

c. A third kind is the *working hypothesis*. It is a guess at either a mathematical formula or a causal explanation, which is recognized from the beginning as having little or no probability. Such a working hypothesis was the "electric fluid" assumed by Benjamin Franklin (now irreverently called "juice"); he supposed that electricity was some sort of fluid, merely to have a starting-point for his research. Yet though improbable or wrong, such hypotheses have their utility. For their proximate purpose is to collect, arrange, describe and discuss in intelligible language, the multifarious phenomena, which would otherwise be a chaotic jumble. "The conception of any such hypothesis, and its application to facts, invariably stimulates scientific inquiry and leads to valuable results, and this even though the hypothesis itself may turn out afterwards to have been partially or wholly erroneous." However, "it is not the function of logic, but of the respective sciences in which such hypotheses are employed, to discuss the latter on their merits" (Coffey, Log. I p. 131).

Of course, "the actual conception of hypothesis is amenable to no logical rules. It is just here that the sagacity, genius and originality of the scientist and inventor will have free scope. Wrong hypotheses will be usually conceived before right ones. Kepler is said to have conceived and disproved nineteen successively, before arriving at the laws of planetary motion" (Coffey, Log. II p. 121-2).

Yet whereas Logic can give no rules for finding hypoth-

eses except to keep looking for one, it does lay down rules for a *legitimate* hypothesis:

a. The hypothesis must be *necessary*. This implies two things: (a) The facts to be explained must be real, not imaginary; it would be foolish to find a cause for what needs no cause. (b) The hypothesis must be called for because there is no other explanation for the facts; *entia non sunt multiplicanda sine necessitate*.

b. The hypothesis must be *possible*. It must not contradict truths already established; for truth cannot contradict truth.

c. The hypothesis must be *sufficient*. That is, it must really explain the facts in question.

d. The hypothesis should be *verifiable*. That is, the cause assigned for the facts should be such that it could some day be proved to be the cause.

### 3. Verification

The hypothesis is merely a question put to nature; verification elicits the answer. Verifying a hypothesis means *proving* that it is the true explanation. It also includes *generalization*; for we suppose that the hypothesis was of such a nature as to discover a general law or strict property.

#### *Illustration:*

Suppose that after several experiments, in which we have observed iron to sink in water, we surmise that this is a *law*, and that iron by its very nature *must* sink. How can we *test* this hypothesis? We must vary both the external circumstances of the experiments (time, place) and the internal accidents of iron and water (using round, square, oblong pieces of iron; using warm, cold, quiet, flowing water etc.) If after and in spite of all these variations, iron continues to sink in water, we are entitled to ascribe the phenomenon to an essential relation between iron and water. (Compare how the laws of motion or of falling bodies are proved to be laws in physics, or read the account of how the mosquito was proved to be the carrier of the yellow fever germ in de Kruif, *Microbe Hunters*.)

On the other hand, none of the theories suggested for the inerrancy of homing pigeons has stood the test of verification.

Three remarks :

a. A hypothesis is not really verified when it can be shown to explain the facts ; it must be shown to be the *only* explanation.

b. In a wider sense, a hypothesis is sometimes said to be verified when it explains the facts *better* than any other hypothesis suggested so far, or when it lends itself to the explanation of cognate groups of facts for which it had not originally been proposed. Sciences are full of such hypotheses.

c. Epistemology shows that the process of verification leads, under certain conditions, to true *certitude* as regards physical laws and natural classes.

#### **4. Application**

After the law or property has been established, we apply it to all particular facts that come under it. Though this process is really deductive, yet it pertains to "scientia," which is knowledge of things through their causes. This is scientific *explanation*.

## Cumulative Argument

1. Sometimes we should like to know *individual facts*, which we had not observed ourselves, perhaps could not observe: Did Morse invent the telegraph? Did World War I begin in 1914? Is John Brown's fever due to pneumonia? It is clear that induction cannot help us to answer these questions; for the conclusion of induction is a universal proposition. Nor will deduction do. The conclusion of a syllogism may indeed be a singular proposition (*Darii*, *Ferio*), but its predicate, being derived from a universal proposition, will be something common to all (e.g. therefore Peter is rational). But in our questions, both S and P are individual, unique in the sense that the facts happened once and cannot possibly happen again.

2. A cumulative argument is one based on reasons which *point to the same fact* as their only common explanation.

### *Examples:*

A teacher is struck by a certain similarity between the themes of John Smith and Paul Jones: the same arrangement, the same happy phrases, even the same wrong spellings. Perhaps no single item, taken by itself, proves that one has copied from the other; but all together leave no doubt in the teacher's mind. By another set of probabilities the teacher may even become sure that John Smith has copied from Paul Jones, not vice versa.

Or suppose that five contemporaneous historians testify that Nero committed suicide. Suppose moreover that they are independent of one another and that all sinister motives (greed, envy, hatred) can be excluded from their testimony. What other explanation can there be for their combined testimony except the fact that Nero really did commit suicide?

3. The steps involved in this argument are the first three discussed under induction. First of all, the facts must be gathered diligently and without bias. Then a hypothesis is formulated, that is, some other fact is assumed provisionally,



which would account for the facts unearthed. Lastly, the hypothesis must be verified, to see if it and it alone explains the known facts.

4. This method of reasoning is mainly used in history. It is also resorted to in daily life, where particular facts are to be ascertained: in court procedure, in medical diagnosis, in the recognition of an old friend etc.<sup>1</sup>

5. The argument, though often called "convergence of probabilities," has nothing to do with the mathematical calculus of probabilities. The two processes are totally different. Besides, the former pertains to the real order, the latter to the order of mathematical abstractions.

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<sup>1</sup>The best explanation of this method of reasoning is found in some articles in *Revue néo-scholastique* (1919-1920) and in *L'Etude comparée des Religions* (ed. 3, II p. 112-6, 509-554). Both are by *H. Pinard de la Boullaye, S.J.* But the first to draw vigorous attention to this line of reasoning was *Card. Newman* in his *Grammar of Assent* ch. 8, 9. See also *d'Arcy*, *Nature of Belief*; *Coffey*, *Log.* II p. 262-5; *Lahr* I p. 691-2; *Ph. Flanagan*, *Newman, Faith and the Believer*.

## Statistics

1. Statistics is the science which deals with the tabulation, computation and regular recurrence of individual facts of the same kind.

a. "We are said to compile statistics when we count or compute the number of instances of the occurrence of a phenomenon—and if possible, also, the measure or degree in which it occurs in each instance—within any selected limits of time and space" (Coffey, Log. II p. 192). Thus we may collect and *tabulate* the annual production of cotton or wheat in the U. S., the number of annual births or marriages or deaths, the number of strikes or suicides within a given locality, the number of Negroes in each state or city etc. The result may be given either in *absolute* or *relative* numbers (e.g. so many Negroes in Chicago or so many per 1000 inhabitants); sometimes the result is represented *graphically*, especially for the sake of comparison.

b. Statistics are combined into *averages* by computing the arithmetical or geometrical mean. This computation is easy where complete statistics are at hand. Incomplete statistics may be supplemented by inference from "samples" or by mere estimation; but both methods are to be employed with great caution.

Note that the average differs from a *universal*. The universal is true of every single individual; the average is applicable only to a mass. If 51 years be the average age at which Baltimoreans die, we know nothing how old John Smith of Baltimore was when he died.

c. A further purpose of statistics is to find, if possible, *regularities*. This is done by comparing the different times or places or circumstances in which the statistics had been

taken. Thus one may find that the number of deaths is almost constant from year to year within a given territory. Of course, the wider the range covered by the statistics, the greater the chance of eliminating accidental variations.

2. Statistics, as a special method, was formerly restricted to the so-called *social sciences*. Statisticians computed the population of a country, its production and distribution of goods, its educational and recreational facilities, its health and crimes etc. Nowadays its scope has been extended to *natural sciences*: anthropology, meteorology, physics, psychology etc.

3. The *explanation* of statistics as well as the drawing of *conclusions* from them (by induction or deduction) should be left to those who are experts in the respective sciences.<sup>1</sup>

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<sup>1</sup>Cf. *Cath. Enc.*, s. v. Statistics; *Coffey*, Log. II p. 282-293; *Lahr* I p. 653; *Sortais* I p. 383-4. 755; *Crumley* p. 424-434.

## PART 4

### METHOD

We saw above (p. 47-8) what method is and how it differs from doctrine. We also saw that Logic is essentially a treatise on method; for its purpose is to assure correctness of reasoning.

Plato compared Socrates' method to the art of cutting up a fowl. As we know from experience, there is carving and carving. The novice just hacks and tears away at the turkey, and the result is anybody's guess. The chef follows carefully the smallest joints of the bird's anatomy and with a few deft cuts spreads before us its component parts.

A similar difference appears when a novice and a trained logician tackle a subject of study.

The simplest form of logical method is inference and the syllogism. The rules laid down for them assure us that our reasoning processes will lead us to right conclusions.

However, the operations of the mind involved even in the ordinary syllogism are relatively few, and the goal to be attained is the truth of one proposition. Method rather refers to processes involving *many* steps, such as induction and cumulative evidence; hence these are often spoken of as the inductive method and the historical method. The general method to be followed was outlined by the Scholastics in what they called the three *modi sciendi*: division, definition, argumentation.

But the ultimate goal of all research and reasoning is *systematic knowledge*. We shall therefore discuss first the notion of system, called '*scientia*' by the Scholastics.

## CHAPTER 1

# The System

### 1. GENERAL NOTION

Systematic knowledge consists in such an arrangement of our concepts that their identity and diversity is *apparent at a glance*.

Take three concepts with which we are all familiar: animal, man, brute. Man is not a brute, nor are brutes men. But both men and brutes are animals. 'Animal' may be predicated of both men and brutes. The order existing between three concepts like these, is generally indicated by arranging them thus:

ANIMAL  
Man — Brute

This diagram shows us what is meant by coordination, subordination, superordination of concepts. Coordinated concepts cannot be predicated of one another; but a subordinated concept may be made the S of a proposition, of which the superordinated concept is the P.

From this diagram we also understand why subordinated concepts are called the *inferiors* of the superordinated or higher concept.<sup>1</sup>

### 2. DIRECT AND REFLEX UNIVERSAL

Seeing that the higher concept can be predicated of its inferiors, there is a relation of identity between them; for

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<sup>1</sup>Inferior means of course lower. But note that the word as used here has nothing to do with 'lower' or 'simpler' or 'less perfect' in the order of reality. Scientists speak of lower and higher animals, of simple organisms (like the amoeba) and of complicated structures (like man's); evolution is claimed to be an advance from the less perfect to the more perfect etc. The term 'inferior' as used in logic has an essentially different meaning.

logical predication expresses identity. And seeing that the higher concept can be predicated of many inferiors, there evidently exists between them the relation proper to the *universal*, viz. one in many.

This leads us to a distinction of universal concepts which we postponed in an earlier chapter (see p. 53, 58).

The direct universal is something common to many, but *not* conceived as such. The reflex universal is something common to many and conceived *as such*. Thus I may merely know what 'man' is (viz. a rational animal) without realizing that it can be predicated of many; in that case, my concept of 'man' is called a direct universal. But if I also conceive 'man' *as capable of being predicated* of Peter, Paul, John etc., my concept is a reflex universal.

### 3. PREDICABLES

There are various kinds of relations of identity existing between one and many, and these are called predicables. The Scholastics, taking the *essence* of the inferiors as the principle of their division, distinguish *five predicables*:

1. **Species** is such a relation between concepts that the higher concept expresses the *complete essence* of the inferiors. Such a relation exists between 'man' or 'rational animal' and all individual men (Peter, Paul, John etc.); they all agree in possessing manhood, and outside of manhood nothing is essential to them.

2. **Genus** is such a relation between concepts that the higher expresses the *determinable part* of the essence of the inferiors.

3. **Difference** is such a relation between concepts that the higher expresses the *determining part* of the essence of the inferiors.

To understand these last two definitions, remember that we define a thing by means of *two* concepts: one in which many things are alike, the other by which the thing defined differs from all pertaining to the same group. Thus when I say: Man is a rational animal, 'animal' expresses man's essence, but not completely; it must be further determined by 'rational,' by which man differs from all other animals. Hence 'animal' is said to express the determinable part of man's essence, 'rational' the determining or differentiating part.

The difference is said to *contract* the genus; for by adding a new concept, it lessens the extension of the genus.

4. **Property** is such a relation of concepts that the higher expresses something *necessarily flowing* from the essence of the inferiors, though not pertaining to the essence itself. Thus the faculty of rational speech is a property of man; though not a part of man's essence, it yet flows necessarily from that essence.

Properties are called *generic* or *specific*, according as they flow from the generic or specific essence.

5. The **(logical) accident** is such a relation between concepts that the higher may be *present or absent* in the inferiors without affecting their essence. Thus whether a man be white or black or brown, "he is a man for a' that."

There are also *other* definitions of the predicables current. A predicable is said to be "P as predicated of many S." This definition shows that the predicable coincides with the reflex universal.—Modern scientists especially define a predicable (more concretely) as "the *collection* of all those things of each of which one and the same predicate may be used." In this sense, all men together constitute a species, all animals a genus.

#### 4. PREDICAMENTS

If extension and comprehension vary inversely according to the rule given on page 52, we must at last come to con-

cepts which are both widest in extension and least in comprehension. Which are they? Aristotle enumerated 10 of them: substance, quantity and quality, relation, action and passion, where and when, posture and environment. They are called the *10 categories* or *predicaments*.

Still wider, however, than any of these and yet covering them all is the concept of *being* (thing, something) with its attributes of unity, truth and goodness. These concepts are called *transcendental*, because, being implicitly contained in the concepts of all 10 categories, they transcend them all.

The discussion of the peculiar nature of all these concepts and of the principles flowing from them forms the subject-matter of that part of philosophy which is called "general metaphysics."

## 5. PREDICAMENTAL TREES

1. By analyzing a genus, we may again distinguish in it a determinable and a determining part. We thus get what is called a *higher genus* and a *generic difference*. The generic difference contracts a higher genus to a lower genus.—By contrast, the difference which contracts a genus to a species, is called *specific difference*.

The *highest genus* is one above which there is no other. The highest genera of all created things, that is the highest concepts which may be predicated univocally of creatures, are the *10 predicaments*.—The *lowest* (proximate) *genus* is one below which there is no other.—An intermediate *genus* is one above and below which there are other genera.

### 2. The Tree of Porphyry

A natural series of genera and species, beginning with the highest genus and descending to the lowest species, is called a *predicamental tree*. Such a series has been correctly worked



out by Porphyry concerning *man*, and is therefore called a 'Tree of Porphyry.' It is arranged as follows:

### SUBSTANCE

Material	—	Immaterial
Living	—	Non-living
Sensitive	—	Non-sensitive
Rational	—	Non-rational

To forestall possible difficulties, observe: These are *mere* definitions or explanations of the terms as used by the Scholastics. What corresponds to them in reality, will be told in epistemology.—Likewise, the examples here given, though certainly approved by common sense, are only meant to *illustrate* the definitions. That these illustrations are philosophically correct, will be proved in other parts of philosophy.

## Systematic Operations of the Mind

## I. DIVISION

## 1. Notion

Generally speaking, to divide is to separate the various parts of a thing. But in logic, *division* is defined as a distinct enumeration of the parts of a (logical) whole.—*Subdivision* is a distinct enumeration of the parts of a part.

To explain:

“Part” and “whole” are correlates. A *whole* is something which is composed of parts, and can therefore be broken up. *Parts* are those things of which a whole is composed, and into which it can therefore be broken up.

A *real* whole is one which cannot be predicated of the single parts; e.g. “house,” which cannot be predicated of the single rooms.—A *logical* whole is one which can be predicated of the single parts; e.g. animal, which can be predicated of Peter, a horse etc. In other words, what we ordinarily mean by a whole is the real whole; the logical whole is a *universal* concept, and its parts are the inferiors of which it can be predicated.

In this chapter we only speak of the *logical* whole and its parts.

The parts of a logical whole are also called *members* of the division. They are also called *subjective* parts, because they can be subjects in propositions of which the logical whole is the predicate (e.g. Peter is an animal; the horse is an animal).

There are various ways of *expressing* division; e.g. an animal is either rational or irrational; some animals are rational,

others irrational; animals are divided into rational and irrational etc.

## 2. Kinds of Division

Division is said to be *essential* or *accidental*, according as there is an essential or only an accidental difference between the members of the division. Hence:

a. *Essential divisions* are the following: (a) when a genus is divided into its species; (b) when a higher genus is divided into its lower genera; (c) when an analogous term is divided into its analogates.

b. *Accidental divisions* are the following: (a) when a substance is divided according to its accidents (e.g. horses are either white or black or brown etc.); (b) when an accident is divided according to its subjects (e.g. motion is either molar or molecular or atomic etc.); (c) when an accident is divided according to its accidents (e.g. motion is either slow or fast, up or down).

## 3. Laws of Division

a. The division must be *adequate*, i.e. such that all the members when taken together, equal the whole. For the whole is equal to its parts when taken together. Hence the following is a wrong (inadequate) division: Men are either Americans or Chinamen.

It is also evident that no single member of a division can equal or exceed the whole.

b. The single members of a division must *exclude* one another; they must not overlap. Hence the following is a wrong division: Men are either white or black or mechanical engineers.

c. The division must keep to the *same principle* or foundation.

The principle of a division is the aspect according to

which the division is made; it is a mark which is found in all the members of a whole, yet differs in each. Thus we may divide man according to race or language or color etc.

d. The division must be *orderly*.

This rule refers especially to cases where there are subdivisions. It means that each division or subdivision should comprise those parts and those only which *immediately* constitute the whole or the part subdivided.

## II. DEFINITION

Generally speaking, to define is to explain what we mean by a term. There are two principal kinds of definition: nominal and real.

### 1. NOMINAL DEFINITION

#### 1. Notion

A nominal definition merely explains the word as such, not the thing signified by the word. This may be done in various ways: (a) by distinguishing between the various meanings of an ambiguous term; (b) by giving merely synonyms or words better known; e.g. campus is a field; (c) by giving the etymology of a word; e.g. philosophy is love of wisdom; (d) by enumerating some or all of the things signified; e.g. plants are trees, shrubs, flowers etc.; (e) by merely appealing to the usual meaning; e.g. space is that which people mean when they speak of space.

#### 2. Use of Nominal Definitions

Nominal definitions are used chiefly at the *beginning* of a disputation, to indicate what is the subject (S) under dispute. Thus when setting out to prove that plants have no sense life, we may define by merely enumerating various objects called 'plants' by everybody.

### 3. Rules

a. If a word has only one *definite meaning*, this is to be adhered to. Also the most commonly accepted terms should be employed in their most commonly accepted meanings. This rule applies particularly to words in every-day use; if their meanings were changed arbitrarily, human speech would become impossible.

b. Never employ a term to which you cannot assign a precise and *clearly-defined meaning*. Where any doubt as to the meaning of a term can arise, define carefully. This is not pedantry, but a sign of education.

c. If the meaning of a term be itself *in dispute*, its nominal or initial definition should be such that it can consistently be admitted by both sides to the dispute.

## 2. REAL DEFINITION

Real definition is an explanation not merely of the term, but of the *thing* signified by it. Real definition is either essential or descriptive.

### 1. Essential Definition

An essential definition is an explanation by means of the *essential parts* of a thing. But these parts are either really distinct from one another or only in our mind. Accordingly, essential definitions are either physical or metaphysical.

a. The *metaphysical* definition consists of the *proximate genus* and the *specific difference*; e.g. man is a rational animal.

This is the most perfect kind of definition. We arrive at it by three steps. First we compare the thing to be defined with all other things; then we indicate the class to which it belongs; lastly we point out that which differentiates it from all the other things belonging to the same class (see p. 98).

All other definitions are built up on the analogy of this.

b. The *physical* definition indicates those parts of a thing which constitute its essence, but are really distinct from one another. Thus man may be defined as "a substance composed of a body and a spiritual soul"; for body and soul, though not separated in life, are yet really distinct.

## 2. Descriptive Definition

On the analogy of the metaphysical definition, the descriptive definition indicates something which the thing to be defined has in *common* with many others, and a *distinctive* mark, which differentiates it from everything else in that class. According to the nature of this distinctive mark, logicians distinguish principally *four kinds* of descriptive definition:

a. The *proper* definition explains the thing to be defined by one or more of its properties; e.g. man is an animal with the faculty of rational speech.

Such definitions are called *popular* or *scientific* or *philosophical*, according as the properties indicated are sufficiently distinctive for the popular mind, or serve scientific purposes, or have been proved to be properties in the strict sense.

b. The *causal* definition explains a thing by its proper extrinsic cause, especially by its purpose; e.g. a clock is a contrivance to indicate time. In this way we define man-made objects; e.g. table, book, telephone.

c. The *genetic* definition explains how a thing originates

d. The *accidental* definition explains a thing by enumerating so many (logical) accidents that they can only fit this one thing. We thus define especially *individuals*.

## 3. Laws of (Real) Definition

a. Definitions must be *brief*, i.e. contain nothing superfluous.

b. Definitions must be *simply convertible* (see p. 73); for they are supposed to fit only the things defined.

c. Definitions must be *clear*, so that one can readily see what they mean, what things are included and excluded, what they attribute to the things defined. Consequently the following, though common today, are wrong definitions: (a) those which contain ambiguous or obsolete or metaphorical words; (b) those which define a thing by itself (e.g. logic is the science of logical operations); (c) those which are wholly negative (e.g. man is not an angel).

d. Definitions must be *clearer than the things defined*. Else they lose their purpose, which is to explain.

Philosophically speaking, a thing becomes clearer by being reduced to higher genera. Now we cannot go on reducing a thing to ever higher and higher genera; there must be a stop somewhere. There must then be some *highest* genera, which cannot properly be defined.

Hence *not everything can be defined*.

### III. ARGUMENTATION

Argument is merely another word for reasoning. But argumentation rather refers to the *method* of arguing or reasoning, especially where many steps are involved.

Now reasoning, whether involving few steps or many, is a mental process in which we pass from what is known to what is unknown. Hence we may distinguish three things in reasoning: (a) that which is known; (b) that which is unknown; (c) the mental journey from the first to the second. A few words on each.

#### 1. Principles of Reasoning

All reasoning supposes certain *principles*, i.e. things which must be known and admitted beforehand; without them reasoning would simply be impossible. They are called principles, because the process of reasoning begins with them and the conclusion flows from them.

Let us observe at once that it would be absurd to demand proof for everything. Just as in defining we must eventually come to notions which cannot be strictly defined, so in argumentation we must come to *ultimate* (or *first*) principles which cannot be proved by another process of reasoning.<sup>1</sup>

However, we must distinguish between material and formal principles of argumentation.

The *material* principles are the terms and the propositions (premises); the *formal* principles are those truths which insure the correctness of the process of reasoning. Thus the formal principle underlying the categorical syllogism is the 'principle of identity'; the formal principle underlying the conditional syllogism, as well as induction and the cumulative argument, is the 'principle of sufficient reason.'

But what must we *know* of these principles beforehand? What must be admitted by both parties to a dispute so that a conclusion may be reached?

a. With regard to the *terms*: Of the subject (S) we must know at least the nominal definition. Besides, we must know that it exists (unless, of course, precisely its existence be in question).—Of the predicate (P) and the middle term (M) the real definition must be known.

b. The *premises* must be admitted as certain or at least as probable.

c. The *formal* principles must be known at least implicitly and as certain; for without them the argumentation would have no force whatever.

## 2. The Question

The *unknown* in reasoning is called the question, or thesis, or conclusion—according to the viewpoint. "Does God

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<sup>1</sup>With Aristotle, St. Thomas says: "Principium demonstrationis non est demonstratio" (In IV Met. 1. 15). And again: "Sunt quaedam principia ex quibus syllogismus procedit, quae non certificantur per syllogismum; alioquin procederetur in infinitum in principiis syllogismorum—quod est impossibile (In VI Eth. 1. 3).



exist," asks S. Thomas in his *Summa theologiae*. He supposes it to be unknown. Modern textbooks carry the thesis "God exists"; it is to be proved and held thereafter, for it may then serve as a principle. "God exists" will also be the conclusion of the proofs or arguments.

In induction and in the cumulative argument, the unknown rather corresponds to the *hypothesis*.

### 3. Kinds of Argumentation

The transition from the known to the unknown is a mental process, connecting antecedent and consequent by a logical bond. This bond is contained in the form of the argument. The form must, of course, be correct: an argument that lacks correct form, is really no argument at all, though it may have the appearance of one.

However, looking more to the *matter*, logicians distinguish various kinds of argumentation:

#### 1. *Demonstration and Probable Argument*<sup>1</sup>

Demonstration is a correct argument from certain (and evident) premises. A probable argument is a correct argument from probable premises.

The difference also appears in the *conclusion*. For the conclusion of a demonstration is certain (and evident), whereas a probable argument can only lead to a probable conclusion.

#### 2. *Direct and Indirect Argumentation*

The principle of this division is the *contradictory* of the conclusion to be proved.

Indirect argumentation proves a proposition by showing that the contradictory of it is false or absurd. It is generally hypothetical in form, and rests on the self-evident principle

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<sup>1</sup>This division rather belongs to epistemology than to logic.

that if either of two contradictory propositions is false, the other is true (see p. 72).—Direct argumentation proves a proposition without using this roundabout method.

All true propositions can be proved indirectly; in fact, indirect proof is often the only one possible or feasible, especially where we deal with the first principles of cognition (as in epistemology). Still, indirect proof has one drawback. It only shows that a proposition cannot be denied in reason, not why it must be admitted as true. Hence it is called an *imperfect argument*.

Akin to the indirect proof are (a) the *negative* argument, which merely shows that an assertion has not been or cannot be proved; (b) the '*argumentum ad hominem*,' which proceeds from the admissions of the opponent, whether these be true or false; (c) the *retort*, which shows to the opponent that he contradicts himself, i.e. that either his premises or his conclusion lead to something which he cannot consistently admit.

As is evident, none of these forms of argumentation establishes a positive thesis.

### 3. *A priori and a posteriori Argumentation*

The principle of this division is the relation of *real* priority between premises and conclusion.

The premises are always logically prior to the conclusion; for the premises are the logical reason why we assent to the conclusion. But the things signified by the premises may *in reality* either precede or follow the thing expressed in the conclusion. If they precede, the reasoning is called *a priori*; if they follow, the argument is *a posteriori*.

To illustrate. The cause is really prior to the effect, the effect is really posterior to the cause. But we may reason either from cause to effect (*a priori*) or from effect to cause (*a posteriori*). Thus if you argue that John will die because he has double pneumonia, you argue *a priori*; for double pneumonia is the real cause of death. But if you argue that John must have had double pneumonia, because he died, you argue *a posteriori*.

The *regressive* argument (*legitimate circle*) aptly joins both these kinds of reasoning. Thus from the *obvious* order in the world, we conclude (a posteriori) to the wisdom of the Creator; then, retracing our steps, we may, from the infinite wisdom of the Creator, conclude (a priori) that there must be order even in those things which *seem* to us without order.

#### 4. *Deduction, Induction, Cumulative Argument*

The principle of this division is the *quantity* of the terms compared.

In *deduction* we pass from universal to singular (or at least to less universal). Thus: All bodies have weight; now the air is a body; therefore the air has weight.

In *induction* we pass from singular to universal. Thus: metals, woods, stones etc. have weight; therefore all bodies have weight.

In the *cumulative argument* we pass from singular to singular. Thus: Peter, Paul, John assert that Rome exists; therefore Rome exists.

Deductive reasoning may be a priori or a posteriori; induction and the cumulative argument are necessarily a posteriori.

## Fallacies

A fallacy or sophism is an argument which seems to be correct, but is not. A fallacy, therefore has the *appearance* of a good syllogism; an argument in which the form is evidently awry, is not called a fallacy; it would deceive nobody.

Following Aristotle, we divide fallacies into those of diction and those of thought. In the former, the deception is due to the identity of the *words* used, in the latter to the fact that the *things* spoken of are similar to other things.

### 1. FALLACIES OF DICTION

1. *Equivocation* is the use of the same word in different meanings.

Thus one might argue: All birds have wings; now John is a bird; therefore John has wings. The *same word* 'bird' is used as middle term in the major and in the minor; hence the form of the argument is *apparently* correct. But the meaning of 'bird' is by no means the same in both premises.

To lay bare the fallacy, *distinguish* the major and *contradistinguish* the minor. Thus: Birds in the proper sense have wings, yes; birds in a metaphorical sense have wings, no (or transmit); John is a bird in the proper sense of the word, no; John is a bird in a metaphorical sense, yes (or transmit).

Equivocation is an exceedingly common form of fallacy. The only way to avoid it in our own reasonings and to detect it in the reasonings of others, is a careful study of the various meanings of the terms we use or hear used.

2. *Ambiguity* is the use of a phrase or a whole sentence in different meanings; e.g. "The Duke yet lives that Henry shall depose" (Shakespeare, Henry VI).

3. *Illicit transition* from one supposition of a term to another.

The most common form of this fallacy is the transition from the collective to the distributive supposition or vice versa. Thus: the Apostles preached everywhere (as St. Mark tells us); now St. Philip was an Apostle; therefore St. Philip preached everywhere.

The fallacy is exposed by pointing out the difference of supposition.

## 2. FALLACIES OF THOUGHT

1. The *fallacy of the accident* consists in tacitly supposing as always true what is true only under certain circumstances. In other words, this fallacy tacitly confuses what is accidental with what is essential, ascribes to all what is true of only one or a few ("*ab uno disce omnes*"), infers at once that a thing must be so because it is so.

Thus from the evil influences to which man is accidentally exposed in society, Rousseau infers that social life is essentially evil, and that the life of a savage is the normal condition of man.

Akin to this is another fallacy in which a *mere antecedent* is tacitly supposed to be a true cause ("*post hoc, ergo propter hoc*").

Thus the pagans blamed the introduction of Christianity for the downfall of the Roman empire.—By defining cause as a mere antecedent, Hume really would make this fallacy the keystone of science and philosophy.—Evolutionists, too, by tacitly assuming that later forms of life are invariably the descendants of earlier forms, really suppose to be a true cause what is perhaps a mere antecedent (e.g. man's ancestors).

2. *Arguing beside the point* consists in proving what is not in question at all. This fallacy may be committed in various ways:

a. Sometimes the disputant *misses the point at issue* alto-

gether, or misconstrues the position of the opponent; as when Protestants condemn Catholics for adoring Saints. This is called "*ignoratio elenchi*."

b. Sometimes the disputant *proves too much*, and therefore proves nothing ("*qui nimium probat, nihil probat*").

Thus if one were to prove the spirituality of the human intellect by claiming that the intellect has no need at all of the senses, he would prove too much; for that would make the human intellect angelic.

c. Sometimes the disputant *proves too little*, and again proves nothing.

Such would be the case, for instance, if one were to prove the freedom of the will by pointing to man's immunity from external forces.

3. *Begging the question* consists in implicitly supposing as proved what is yet to be proved. Its most common form is the so-called *vicious circle*, in which A is proved by B, and then B by A. Another form is the *coloring of facts*, viz. in accordance with a theory which these same facts are supposed to prove.

Thus "psychoanalytical expositions are so formulated that the theories completely colour what should be the plain description of a situation, so that what is offered us as fact and proof of a theory actually already assumes and contains the whole theory" (Allers p. 340).

## Exercises

**Exercise 1***(to page 52)*

A. Concerning the following sets of ideas: (a) Arrange each in descending order, i.e. with less and less extension. (b) Indicate some of the notes by which the ideas of each set differ from one another. (c) Enumerate some of the things of which each of the ideas may be predicated. (d) Show that comprehension and extension stand to each other in inverse ratio.

1. Cathedral—building—St. Peter's in Rome—church
2. Knife—hardware—cutlery—pen-knife
3. Shoe—covering—sandals—footwear
4. Vulgate—printed matter—bible—book
5. Iron—substance—metal—matter—element
6. Coin—property—dime—money

B. Can you supplement each of the following ideas by three others in ascending order?

Buick, Statler hotel, Cunarder, kitchen door

**Exercise 2***(to page 52-4)*

Indicate whether the following ideas are universal, particular, singular or collective, and if collective, whether they are universal, particular or singular:

City—a sentence—some building—apple-tree—this parade—family—Julius Caesar—animal—this flock—some mobs—doctor.

**Exercise 3***(to page 54)*

In the following sets of two ideas, ask yourself: (a) Is there identity or diversity between them? (b) Is the identity (or diversity) formal or objective, complete or partial?<sup>1</sup>

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<sup>1</sup>The ideas may be taken either in the abstract or in the concrete.

1. college—poor
2. logic—easy
3. book—novel
4. building—mansion

5. elephant—puny
6. speed—reckless
7. rabbit—swift

#### **Exercise 4**

(*to page 56*)

What is the extension of the following terms?

Every teacher—summer—a horse—this book—no stone—the White House—a filling station—the man who drove the car—each guest—no team—that street—all towns.

#### **Exercise 5**

(*to page 56-7*)

Suppose that in each of the following sets, the first term is predicated of the other two, in what sense is it predicated?

1. bank—First National—Savings
2. bank—First National—snowbank
3. automobile—Ford—Buick
4. chair—Chippendale—chair of philosophy
5. city—Chicago—Detroit
6. figure—ten—circle
7. ball—tennis ball—dance
8. slip—a small piece—a lapse in speech
9. bridge—Brooklyn bridge—a game of bridge
10. end—death—purpose

#### **Exercise 6**

(*to page 57-9*)

In the following sentences, what is the supposition of the subject?

1. Some Indians are crafty.
2. Brave men were living before Agamemnon.
3. No medicine can restore the dead.
4. Cares make wrinkles.
5. Animal is a genus.
6. A ship was in distress.
7. Los Angeles is picturesque.
8. Mathematics is the bane of my life.
9. All horses are animals.
10. Brooklyn is a word of two syllables.
11. Americans love sport.
12. The plant is a living being.
13. The drunkard loves the bottle.
14. The kettle boils.



**Exercise 7***(to page 62-3)*

Does the copula 'is' in the following sentences express merely identity, or perhaps something else?

1. Time is money.
2. Shakespeare is a poet.
3. Facts are facts.
4. No news is good news.
5. Methane is  $\text{CH}_4$ .
6. War is hell.
7. "East is East, and West is West,  
And ne'er the twain shall meet."
8. Woe is me.
9. Business is business.
10. All his geese are swans.
11. This fur coat is \$98.

**Exercise 8***(to page 63)*

A. Regarding the sentences given below, answer the following questions: (a) What is the quality of each? (b) What is the quantity of each? (c) By what letter (A, E, I, O) would you therefore designate the single propositions? (d) What is the extension of the predicate of each proposition?

1. No aeroplane is indestructible.
2. Some teams are not manageable.
3. All cows are herbivorous.
4. Some books are tiresome.
5. Every lie is cowardly.
6. Not all poets are inspired.
7. No man is hopeless.
8. Some streets are not crooked.
9. Not all invitations are acceptable.
10. All is not lost.
11. Full many a flower is born to blush unseen.
12. Not all who mock their bonds are free.

B. Ask yourself the same questions regarding the sentences of exercise 6 (omit sentences 7 and 10).

**Exercise 9***(to page 64-8)*

Examine the following propositions as to (a) kind, (b) matter and form, (c) number of assertions:

1. Poets are born, not made.
2. Open rebuke is better than hidden love.
3. Prejudice and love of truth are irreconcilable.
4. Either New York or London is the biggest city.
5. As the door turneth upon its hinges, so doth the slothful upon his bed.
6. Unless the Lord build the house, they labor in vain who build it.
7. You cannot sleep and read.
8. We cannot possibly win.
9. Where there is a will, there is a way.
10. Dead is he, but not departed;  
For the artist never dies.
11. I have neither money nor work.
12. Like father, like son.
13. The earth alone is inhabited.
14. Better are the wounds of a friend than the deceitful kisses of an enemy.
15. Who steals my purse, steals trash.
16. The higher the speed of the machine, the worse the accident.
17. None so hard to convince as those who want to doubt.
18. It never rains but it pours.
19. No admittance except on business.
20. All men think all men mortal but themselves.
21. He jests at scars who never felt a wound.
22. We shall meet, but we shall miss you.
23. Uneasy lies the head that wears a crown.
24. Those who sup with the devil must have a long spoon.
25. Only microbes cause contagious diseases.
26. One bad general is better than two good ones.
27. You cannot chase the dollar and an ideal at the same time.
28. Those who say they despise riches, are either saints or liars.
29. Few, save the poor, feel for the poor.
30. "And to be wroth with one we love  
Doth work like madness in the brain."
31. "Every one is out of step except my Johnnie."
32. All is lost save honor.
33. A live ass is better than a dead lion.

### Exercise 10

(to page 70-2)

A. Give the contradictory of the following propositions:

- |                                   |  |
|-----------------------------------|--|
| 1. Some novels are worth reading. | 10. Poets are born, not made.                      |
| 2. All is vanity.                 | 11. Not all invitations are acceptable.            |
| 3. No man is hopeless.            | 12. Plants have no feeling.                        |
| 4. Animal is a genus.             | 13. The mountain you see is Pike's Peak.           |
| 5. Nobody can sleep and read.     | 14. Either New York or London is the biggest city. |
| 6. John is a sailor.              | 15. Knowledge is power.                            |
| 7. All men have an immortal soul. |  |
| 8. Like father, like son.         |  |
| 9. The earth alone is inhabited.  |  |

B. Construct complete squares of opposition for the following propositions:

- |   |                                   |
|---|-----------------------------------|
| 1. Some horse is white.                   | 5. Some victories are disastrous. |
| 2. Knowledge is power.                    | 6. Fame begets envy.              |
| 3. No ship leaves port without lifeboats. | 7. Poets are inspired.            |
| 4. Familiarity breeds contempt.           | 8. Some books are not tiresome.   |

C. If in the following sets of propositions, the first is true (or false), what follows with regard to the other?

1. All is vanity—some things are not vanity.
2. Some horse is not black—no horse is black.
3. Some heads are grey—all heads are grey.
4. No star is fixed—some star is not fixed.
5. Some knowledge is power—some knowledge is not power.
6. All honor comes by diligence—no honor comes by diligence.
7. All injustice is hideous—some injustice is hideous.

### Exercise 11

(to page 73)

A. Convert the following propositions:

1. All new things are striking.
2. Some cowards are miserable men.
3. No jazz is music.
4. Facts are stubborn things.
5. Fame begets envy.

B. Are the following conversions correct, and if so, of what kind are they?

1. Some praise is flattery—all flattery is praise.
2. All dogs are animals—all animals are dogs.
3. All cathedrals are churches—some churches are cathedrals.
4. Some Chinamen are not white—no white person is a Chinaman.
5. No dilettante is a scholar—some scholar is not a dilettante.
6. Knowledge is power—power is knowledge.

### Exercise 12

(to page 74)

Are the following inferences correct?

1. There can be universal peace; therefore there is.
2. There cannot be universal peace; therefore there is not.
3. Windmills are possible; therefore there are windmills.

4. There are motor engines; therefore they are possible.
5. Familiarity can breed contempt; therefore it does.
6. Man cannot have descended from the ape; therefore he did not.
7. There are no honest politicians; therefore an honest politician is impossible.
8. Man can sin; therefore he does.

**Exercise 13***(to page 80-2)***A. Indicate figure, supply conclusion, indicate mood:**

- |   |   |
|---|---|
| 1. All animals have senses.<br>All mice are animals.    | 6. No plant feels.<br>The oyster feels.                     |
| 2. All animals have senses.<br>Some horses are animals. | 7. No dog has wings.<br>All collies are dogs.               |
| 3. All men are animals.<br>All men have two feet.       | 8. No man is irrational.<br>Some animals are irrational.    |
| 4. All birds have wings.<br>Some birds have claws.      | 9. Some men are wise.<br>All men are rational.              |
| 5. No plant feels.<br>Some roses are plants.            | 10. All men are rational.<br>Some animals are not rational. |

**B. Examine as to correctness:**

- |  |  |
|--|--|
| 1. All men are rational.<br>John is a man.<br>John is a scholar.                 | Socrates is not an elephant.<br>Socrates is not a philosopher.                             |
| 2. All men are mortal.<br>All Negroes are mortal.<br>All Negroes are men.        | 9. Peter is a man.<br>Paul is a man.<br>Peter is Paul.                                     |
| 3. All men have a soul.<br>Horses are not men.<br>Horses have no soul.           | 10. 3 and 5 are odd numbers.<br>8 is 3 and 5.<br>8 is an odd number.                       |
| 4. All birds lay eggs.<br>The goat is not a bird.<br>The goat does not lay eggs. | 11. Good men obey the laws.<br>Sailors break the laws.<br>Sailors are not good men.        |
| 5. All horses are useful.<br>This animal is useful.<br>This animal is a horse.   | 12. Some elephants are not wild.<br>All tigers are wild.<br>Some tigers are not elephants. |
| 6. Many lawyers are crafty.<br>Peter is a lawyer.<br>Peter is crafty.            | 13. Man is a species.<br>Peter is a man.<br>Peter is a species.                            |
| 7. Birds are animals.<br>The cat is not a bird.<br>The cat is not an animal.     | 14. All soldiers are an army.<br>John is a soldier.<br>John is an army.                    |
| 8. No philosopher is an elephant.  | 15. All fishes can swim.<br>Charles can swim.<br>Charles is a fish.                        |

- |   |  |
|---|--|
| 16. All soldiers are paid.<br>No volunteer firemen are soldiers.<br>No volunteer firemen are paid.            | 26. Some monks are learned.<br>Luther was learned.<br>Luther was a monk.   |
| 17. All dogs bark.<br>This animal barks.<br>This animal is a dog.   | 27. Foxes steal chickens.<br>Herod was a fox.<br>Herod stole chickens.   |
| 18. All men have two feet.<br>No bird is a man.<br>No bird has two feet.                                      | 28. Who is most hungry, eats most.<br>Who eats least, is most hungry.<br>Who eats least, eats most.  |
| 19. All Pierce-Arrows are autos.<br>A Ford is not a Pierce-Arrow.<br>A Ford is not an auto.                   | 29. The truth begets hatred.<br>Some lies beget hatred.<br>Some lies are the truth.  |
| 20. Some marine animals are edible.<br>All oysters are marine animals.<br>Some oysters are edible.            | 30. Some white men have become presidents.<br>No aliens have become presidents.<br>No aliens are white men.  |
| 21. All circles are round.<br>All circles are figures.<br>All figures are round.                              | 31. Bostonians are highly cultured.<br>New Yorkers are not Bostonians.<br>New Yorkers are not highly cultured.   |
| 22. All goats are animals.<br>All men are animals.<br>All men are goats.                                      | 32. The beings conjured up in seances are spirits.<br>The souls of the dead are spirits.<br>The beings conjured up in seances are the souls of the dead. |
| 23. All men are animals.<br>Brutes are not men.<br>Brutes are not animals.                                    | 33. The cat is an animal.<br>The robin is not a cat.<br>The robin is not an animal.  |
| 24. All these birds are robins.<br>The sparrow is a bird.<br>The sparrow is a robin.                          | 34. All metals are heavy.<br>Gold is heavy.<br>Gold is a metal.  |
| 25. All wisdom is desirable.<br>A knowledge of slang is not wisdom.<br>A knowledge of slang is not desirable. |  |

### Exercise 14

(to page 83-4)

A. Examine the following hypothetical syllogisms as to correctness of inference:

1. If his heart beats, he is still alive.  
Now his heart does not beat.  
Therefore he is not alive.
2. If a syllogism violates no rules, it is correct.  
Now this syllogism is correct.  
Therefore it violates no rules.

3. This metal is either copper or iron.  
Now it is copper.  
Therefore it is not iron.
4. If you do not study at college, you loaf.  
Now you do not study.  
Therefore you loaf.
5. Either we shall win or lose.  
Now we shall win.  
Therefore we shall lose.
6. If you have fever, you are ill.  
Now you are ill.  
Therefore you have fever.
7. Unless the pond freezes over, we cannot skate.  
Now the pond will not freeze over.  
Therefore we cannot skate.

B. Supposing that the following propositions are majors of hypothetical syllogisms, complete them according to all moods possible :

1. If John has smallpox, he is unfit to travel.
2. If there is dew on the grass, the day will be fair.
3. This machine is either a Ford or a Chevrolet.
4. Unless we retrench, we shall starve.

### Exercise 15

(to page 84)

Expand the following enthymemes into complete syllogisms, preferably categorical :

1. You are sick ; you must stay in bed.
2. This syllogism is correct ; it violates no rule.
3. Man has a spiritual soul ; therefore he cannot have descended from the ape.
4. James will die ; he has double pneumonia.
5. Dogs are mere animals, and mere animals cannot reason.
6. You, as you are old and reverend, should be wise.

### Exercise 16

(to page 96)

In accordance with the diagram on this page, arrange the following sets of three concepts :

1. book, primer, reader
2. Iroquois, tribe, Mohawk
3. circle, square, figure
4. steamer, ship, yacht
5. baseball, tennis, game

**Exercise 17***(to page 97-8)*

If in the following sets of ideas the first is the subject, in what relation do the others stand to it?

1. Man: white, animal, healthy, banker, rational
2. Water: wet, substance, muddy, fresh,  $H_2O$
3. Oak: tree, living, sturdy, black
4. Dog: swift, being, sentient, black, animal, living

**Exercise 18***(to page 100)*

Arrange the following sets of concepts in the form of predicamental trees:

1. Square, figure, circle, quadrilateral, lozenge
2. Vulgate, book, bible, novel
3. Animal, canary, quadruped, biped, horse, hen, cow
4. Jew, Methodist, atheist, theist, Christian, Anglican, Moham-  
medan
5. Baseball, contract, cards, bridge, game, outdoor, golf, indoor
6. Inauguration, civil ceremony, funeral, baptism, religious cere-  
mony, commencement, ceremony
7. Protestant, oriental, Methodist, religion, Baptist, Buddhist,  
occidental.

**Exercise 19***(to page 102-3)*

Do the following divisions violate any rule, and if so, which?

1. Churches are either Methodist or Catholic or frame buildings.
2. Books are divided into juvenile and fiction.
3. A house is either a college or a garage.
4. Newspapers are divided into dailies, weeklies and tabloids.
5. Logic is either a science or an art or both.
6. Inference may be immediate or mediate or hypothetical.
7. Some colleges are endowed, others are free.
8. All chemical substances are divided into elements, compounds and mixtures.
9. A chemical element is either a metal or a non-metal.
10. Plants are either annuals or biennials or trees.

## Exercise 20

(to page 104-6)

A. What kind of definitions would you call the following?

1. Philosophy is love of wisdom.
2. Noon is the time when the sun is due south.
3. A college is an institution of higher learning.
4. A pagan is a villager.
5. The potato is an edible farinaceous tuber of a plant of the nightshade family.
6. A physician is a healer of diseases.
7. A circle is a curve generated by one extremity of a straight line revolving in a plane around the other extremity fixed.
8. An American is a citizen of U. S.
9. Water is  $H_2O$ .
10. A circle is a round figure.
11. A flag is a national symbol.
12. Typhoid is a fever caused by *Bacillus typhosus*.

B. Do the following definitions violate any rule, and if so, which?

1. Sleep is the image of death.
2. A dagger is a weapon.
3. Man is not an angel.
4. Bread is the staff of life.
5. A net is a reticulated fabric, decussated at regular intervals with interstices and intersections.
6. Logic is a machine for combating fallacy.
7. Man is a biped who cooks his food.
8. A vehicle is a car for transporting people.
9. Virtue is the opposite of vice.
10. Patriotism is the last refuge of the scoundrel.
11. Flour is something used in cooking.
12. Life is the sum-total of vital functions.

C. Examine the definitions of "intelligence" which Gruender (Exp. Psych. p. 301-3) rejects, and indicate the rule which each violates. Or study the various definitions of "scholasticism" which are discussed by de Wulf (Scholasticism Old and New, ch. 1, sections 2-3, 5-7; ch. 2, section 1).



**Exercise 21***(to page 108-9)*

A. Change the following propositions into direct arguments (syllogisms of the first figure), and then ask yourself if they are *a priori* or *a posteriori*.

1. This substance is gold, because its specific gravity is 19.3.
2. This substance is not gold, because it is not yellow.
3. Theft, being forbidden by the natural law, is a sin.
4. Blessed are the poor in spirit: for theirs is the kingdom of heaven.
5. Philosophy, which teaches man his duties, is very practical.
6. Since Logic teaches us how to think correctly, it is exceedingly important.

B. Change the following propositions into lines of arguments; these may be direct or indirect, comprise one or more syllogisms:

1. Christ is God: if He were not, He would be a liar; for He said: "I and the Father are one."
2. This watch is not gold; if it were, it would not tarnish; gold does not tarnish.
3. "Logic we can always safely trust, provided logic be correct, since logic is only the exercise of reason, and within its own sphere we may always safely trust our reason" (Vassal-Phillips, *After 50 Years*, p. 38).
4. Advocates of the single tax argue as follows: Since land is a free gift of God, it should not be in private hands, for no free gift of God should be in private hands.<sup>1</sup>

C. Find arguments to prove the following propositions:

1. Logic is useful and necessary (see Coffey, *Log. I* p. 38-9).
2. Bad books are injurious.
3. Jealousy cannot please God.
4. Theft should be punished.
5. The study of philosophy is to be encouraged.
6. The worship of God is every man's duty.
7. The Saints deserve to be honored.

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<sup>1</sup>More examples in Riedl, *Exercises in Logic*.

# EPISTEMOLOGY



# INTRODUCTION

## 1. DEFINITION

Epistemology, which is also called "Theory of Cognition," "Critics," "Criteriology," "Major Logic" etc., is the *science of the certitude of our cognitions*.

Explanation :

1. The *material object* of epistemology are 'our cognitions.'

Subjectively, cognition is an act of the mind by which we know something; objectively, it is that which we know. As in logic, so here, too, we are mainly concerned with *objective* cognition.

By cognition, as we understand it here, we mean a judgment, a statement, an assertion, a proposition, primarily a categorical proposition. And since the copula ('is' or 'is not') constitutes the essential element of a judgment, we mean primarily the copula. Secondly, cognition refers to the other elements which go to make up a judgment, viz. S and P, and to the sources from which we draw our judgments.

We speak of *our* cognitions, i.e. those of normal men. We are not concerned with God's knowledge, nor with that of the angels. Also the judgments of abnormal people are beyond the scope of epistemology; for, as regards certitude, no one will put these on a par with the judgments of normal people (supra p. 40). Lastly, we exclude animals from our consideration.

Moreover, we only speak of our *natural* cognitions, i.e. those which we can acquire without special divine help or revelation (supra p. 3).

2. The *formal object* of epistemology is certitude. Certitude is cognition which is necessarily true and is known to be true. Must our cognitions ever be true? And if so, when, how, why? These are the questions which epistemology discusses.

From the foregoing it is clear that certitude implies truth

and therefore epistemology may also be defined as the "science of the truth of our cognitions."

It is customary and proper to treat in epistemology not only of truth and certitude, but also of the states of mind which fall short of the ideal state. Hence epistemology also has something to say about opinions and errors.

## 2. DIVISION

### 1. Existence of Certitude

### 2. Sources of Certitude:

a. In general: Our Cognitive Faculties

b. In particular:

*Consciousness*

*External Senses*

*Intellect*

*Reasoning*

*Human Testimony*

### 3. Nature of Certitude

### 4. Truth and Error

## PRELIMINARY NOTIONS

The first question discussed in modern books on Epistemology is this: What is the initial attitude of the philosopher to be? Shall we begin philosophy as doubters (real or fictitious) or as "dogmatists"? We touched on this subject in the Introduction (supra p. 39-44) and we shall say more about it later (infra p. 252-4). But there are certain notions and facts which are implied in the very object of Epistemology: the notions of truth and error, as well as the various states of our mind concerning different propositions.

### 1. Truth and Error

In general, truth means *conformity* (i.e. one thing having the same form as another or being conformable to another); its opposite is *difformity*.

Scholastics make a threefold division:

*Logical* truth is the conformity of the mind to its object; as when I judge that the sun is round.—The opposite of logical truth is *error*, i.e. positive difformity of the mind with its object; as when I judge that the sun is square.

*Ontological* truth is the conformity of a thing to the mind; as when we speak of a true friend, a genuine diamond.—Its opposite is called *false*.

*Moral* truth is the conformity of a man's speech to his mind; i.e. when he says what he thinks.—Its opposite is a *lie*, an untruth, a falsehood.

Epistemology is only concerned with *logical* truth and error. Ontological truth will be discussed in ontology, moral truth in ethics.<sup>1</sup>

### 2. States of the Mind

As we know from experience, our mind may be in various states in the face of a proposition put before us. Sometimes

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<sup>1</sup>English-speaking logicians have other divisions of truth (cf. Webster s.v. Truth), which, however, are less logical and fundamental.

we say yes or no without hesitation (e.g. are you alive?); sometimes we hesitate (e.g. how high is this building?); sometimes we give up because we know nothing about the matter (e.g. how many fish are in the sea?).

1. We may conveniently distinguish four states of the mind:

*Ignorance* is the absence of cognition in one who could and especially in one who should know; e.g. a pupil not knowing his lesson.

*Doubt* is the suspension of judgment after deliberation; after deliberating on the matter proposed, we do not say yes or no, we neither assent nor dissent.

*Opinion* (belief) is hesitating assent (or dissent). We say yes or no, and we have good reasons for saying so, but we are aware that we may be wrong. In such cases we often add: I guess, I think, I believe, this is probably so etc.

*Certitude* (conviction) is unhesitating, firm assent (or dissent), without fear of error. We express this by saying: I am sure, certain, positive.

The proposition itself to which we give a firm assent, is often called a *certainty*. This is what we refer to when we say: This is certain.

## 2. Various Kinds of Certitude:

a. *Purely subjective certitude* is an assent (or dissent) which is indeed firm, but really should not be firm, as when our ancestors firmly believed that the earth was flat.

Certitude, being a state of the mind, is necessarily subjective. But this certitude is called *purely* subjective, because it does not rest on anything objective.

b. *Practical certitude* is an assent (or dissent) which is firm merely for practical reasons, viz. because otherwise life would be impossible. Thus we are practically certain that the cook will not poison the soup, that the train we are about to board will not meet with an accident etc.

The term 'practical certitude' may bear yet two other meanings. (a) It may refer to that *absolute* certitude which is implicit in some of our actions, actions which we should never do unless we were absolutely sure of something. The student writes his examination paper and hands it in because he is sure he will fail unless he does both. (b) A special kind of practical certitude is that of our *instinctive* actions, as when we sleep to regain our strength.

c. *Respective certitude* is an assent (or dissent) based on reasons (motives) which are sufficient for certain minds, but not for all. Thus the child is convinced when mother says so.

d. *Formal certitude* is a firm assent (or dissent) which is necessarily true and known to be true; as when we judge that  $2 \times 2 = 4$ . Not only is our assent firm, but reality necessarily corresponds to it; moreover we are aware of this conformity between mind and reality.

Formal certitude is the *ideal* state of the mind. Not that it is beyond our reach, but in the sense that in all our intellectual cognitions we desire to have this state, and we cannot desire more.

Formal certitude is often called '*objective*,' because it corresponds with objective reality and because it rests on objective grounds.

### 3. Three other points should be emphasized:

a. With regard to one and the same proposition, the state of the mind of the individual may *vary*. One may advance from doubt or probability to certitude; but he may also lose his certitude and drift back or be forced back to doubt.

b. With regard to one and the same proposition, the state of the mind of *different* individuals may vary. One may consider the proposition as doubtful, another as a well-grounded opinion, a third as certain.

c. *Error* is not, properly speaking, a state of the mind. Our mind is made for the truth, and therefore cannot be at rest, legitimately, except when it has attained the truth.



### 3. Initial Attitude

Theoretically, one may take the preceding definitions as implying nothing about their objective validity (sometimes called "nominal" definitions), or as pure fancies (like Alice's experiences in Wonderland), or as evidently *corresponding to reality*.

Practically and naturally, as has been shown in the Introduction to Philosophy, only the last attitude has any sense, and we shall proceed on that basis.

Still, while retaining the objective validity of these concepts in general, it is to be noted that they involve careful thought. They improve on the every-day knowledge which all students bring to philosophy. They are in fact the *scholastic* definitions and distinctions, and as such will be justified in due course.

## PART 1

# EXISTENCE OF CERTITUDE

We are all naturally certain of many things. Who of us doubts that  $2 \times 2 = 4$ , that there is a world of bodies surrounding us, that there are other people besides ourselves, that we live and move etc.? Nature, or rather God, has made us so that we *cannot* doubt about many things.

Still, there were and are philosophers who maintain, explicitly or implicitly, that we are never formally certain. The principal of these are the so-called *skeptics*; they openly and explicitly deny all formal certitude. But closely akin to them are the *relativists* of our own day.

It is the purpose of the first two theses to show the absurdity of these and similar theories.

## THESIS 1

**Universal skepticism is theoretically absurd and practically impossible.<sup>1</sup>**

### 1. Universal Skepticism

a. A skeptic is one who denies or doubts that we have formal certitude.

A universal skeptic is one who denies or doubts that we *ever* have formal certitude. A partial skeptic is one who denies or doubts that we have formal certitude in a *particular* line of cognition (e.g. in history). The universal skeptic says: Nothing at all is certain. The partial skeptic says: Nothing in history is certain, or reasoning never leads to certitude etc.

Universal skepticism then may be defined as the doctrine or attitude of the universal skeptic. This doctrine may be expressed by the statement: *Nothing is certain*.

b. There is also a distinction between so-called objective and subjective skeptics.

The *objective* skeptic admits that our assents are often firm and unhesitating, but he denies that they are ever rightly so. His claim then is this: *We should never be positive*. The *subjective* skeptic denies even that our assents are ever firm and unhesitating. The doctrine of the subjective skeptic may then be put thus: *We are never certain*.

Our thesis is meant against both.

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<sup>1</sup>All the theses laid down in this epistemology, unless stated otherwise, are *certain* and are held by every unprejudiced person.

On the other hand, most of these theses are *implied* in every sentence we utter, and in every judgment we form in our mind; unless they are admitted as absolutely certain, thought and speech lose their meaning. But from this it follows that the proofs given for them are not strict demonstrations; they are rather meant to show the *connection* between the various elements necessary for formal certitude.

As for the make-up of a *scholastic thesis*, see p. 30-1.

## 2. Theoretically Absurd

A statement is theoretically absurd if it denies implicitly what it affirms explicitly—or vice versa; as when I should say: I am dead, I cannot speak, this circle is square, all generalizations are untrue.—Also that statement is called absurd (preposterous, irrational, crazy) which contradicts a self-evident truth (see p. 40).

## 3. Practically Impossible

A doctrine or attitude is practically impossible if it cannot be carried out in practice; e.g. the advice to stop breathing. We call it foolish, ridiculous, silly.

### Adversaries<sup>1</sup>

1. In ancient Greece, prior to Aristotle, the so-called '*sophists*' thought they could prove every proposition both true and false. But as they were mostly rhetoricians and teachers of shyster lawyers, their skepticism served rather a utilitarian purpose; their pupils were bound to win in a lawsuit at all costs. Some *Academicians* (i.e. followers of Plato) flatly denied that anything was certain, though they admitted probability for some propositions.

The chief adversary of the thesis is *Pyrrho*, who advised all to affirm or deny nothing, lest they fall into error.

2. There was again a period of raw skepticism in the France of the 16th and 17th centuries (Montaigne, Charron, Bayle). Montaigne's *Essays* are defined by Lamartine as the "encyclopedia of skepticism." Bayle aimed at producing the impression that everything is disputable by showing that everything is disputed.

3. Today, the attitude of many among the intelligentsia

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<sup>1</sup>To round out one's knowledge, it is advisable to look up the names mentioned in a good History of Philosophy (see p. 415-6). There the student will also find the reasons advanced by the adversaries for their side.

is the same as that of the ancient skeptics. Everything is a *problem*; nothing may be settled. These people refuse to believe that many of their "problems" have been settled satisfactorily thousands of years ago, or that the answer is the same today as was given then.

Universal skepticism also underlies the modern demand for *absolute* freedom of thought, speech, the press. The advocates of such unbounded freedom claim that every man is free to think, speak or write anything he pleases. Such a claim can only be advanced by those who hold nothing for certain.

### Proof of Thesis

1. a. That statement is *absurd* which denies implicitly what it affirms explicitly. Now universal skepticism may be expressed in such a statement. Therefore universal skepticism is absurd.

*Proof of minor:* Universal skepticism may be expressed in the statement: Nothing is certain, or we are never certain. But he who says this, *implicitly* says: At least one thing is certain, and we are sure of it, viz. this statement. Therefore the doctrine of universal skeptics denies implicitly what it affirms explicitly.

1. b. That statement is absurd which contradicts a *self-evident* truth. Now such is the statement of the universal skeptic; for every sane man is absolutely sure of many things because they are so evident (*supra* p. 40-3). Therefore, universal skepticism is absurd.

*Objection.* This argument begs the question. For unless the premises are admitted to be certain, the conclusion is not certain; now the skeptics admit nothing as certain.

A. (a) This is not a proof in the strict sense of the word (see p. 134). (b) The thesis is not directly addressed to the skeptics, but to such as are not yet infected with this extreme form of intellectual despair. To the ordinary sane individual the absurdity of skepticism is manifest enough.

2. That doctrine is *practically impossible*, which cannot be carried out in practice.

Now universal skepticism cannot be carried out in practice.

Therefore universal skepticism is practically impossible.

*Proof of minor:* To carry out practically the doctrine of universal skepticism, one should (a) really doubt everything and (b) live accordingly. But this is impossible, nor has any skeptic ever attempted it. For (a) no one *can* honestly doubt in his mind about his own existence, about the existence of the world around us, about the principle of contradiction etc., though one may, of course, deny them externally. (b) Imagine the *life* of a consistent skeptic: Why does he get up in the morning? Why does he eat? Why does he breathe? Why does he dodge autos? If nothing is certain or if he is not sure of anything, he should do none of these things.

The "man in the street" is never a skeptic. Many claim to be "from Missouri," but they only "want to be shown." A real skeptic should be taken by the hand and gently led to the psychiatrist; he needs rest of mind and healthy bodily exercise, but his disease is amenable to no arguments. De Kruif probably exaggerates when he calls Ernest Renan, the French rationalist, "such a dreadful skeptic that he probably was never quite convinced that he was himself alive, so firmly doubting the value of doing anything that he had become one of the fattest men of France" (*Microbe Hunters* p. 168). But Loisy said of him: "In spite of his skepticism, he never doubted his own infallibility."

*Objection 1.* If this argument were valid, all skeptics would be *liars*; for to lie is to say the opposite of what is in one's mind.

*A.* No. Skeptics imagine they doubt about everything. They, too, are certain, like other people around them; but pondering over certain difficulties, they have *argued* themselves into this absurd position.

*Objection 2.* The reason why skeptics do the things mentioned, is because they are *practically* certain of the effects that would follow otherwise. Now practical certitude is not yet formal certitude.

*A.* The 'practical certitude' of the skeptic is not merely a high degree of probability, but involves absolute or instinctive certitude (see p. 130-1).

*Objection 3.* "Probability is the *guide* of life." Therefore we do not need formal certitude.

*A.* *Dist. ant.* in the sense that in practical life we often must be satisfied with probability, *yes*; in the sense that we can never have more than probability, *no*.<sup>1</sup>

<sup>1</sup>See *Coffey*, *Log.* II p. 264.

*Objection 4.* Both Aristotle and St. Thomas advise the budding philosopher to begin by doubting about everything.

*A.* No. Neither Aristotle nor St. Thomas ever dreamt of giving such a foolish advice. They advocated neither real nor methodical doubt. They only meant to say that the philosopher should be *acquainted* with the problems or difficulties which have been or could be raised against his thesis (*supra* p. 31).

*Corollary 1.* Therefore we are *sometimes* formally certain, and something is certain. This follows clearly from the refutation of skepticism.

However, let not the student imagine that formal certitude is had but rarely, like turkey for dinner. This thesis is meant merely for philosophical reflection on the attitude of skeptics. Later we shall establish the range of formal certitude.

*Corollary 2.* Therefore not everything is debatable nor are there two sides to every question.

#### *Objections of Skeptics*

1. We err *sometimes*. Therefore we may always err.

*A.* (a) This enthymeme may be dismissed as a *sophism*; *ab uno disce omnes*. In the mouth of a skeptic, it is *absurd*; for his antecedent admits a certitude (*viz.* that we err sometimes), which his conclusion denies. (b) *Dist. ant.* we err *per se*, *no*; *per accidens*, *yes*. The meaning of this distinction will become clear from thesis 3.

2. The world is full of errors. We make mistakes every day.

*A.* But not so as to leave no room for formal certitude. Error should make us cautious, but not desperate.

3. People constantly *contradict* one another; what one man affirms, the other denies. Now this would not be if we were ever formally certain (Montaigne).

*A.* *Dist. major*: this happens in everything, *no*; in some things, *yes*.<sup>1</sup>

4. One who cannot tell whether he is right or wrong, is not formally certain. Now we cannot tell when we are right or wrong.

*A.* *Grant major. Dist. minor*: never, *no*; sometimes, *yes*. When I say that  $2 \times 2 = 4$ , I know that I am right and that I cannot be wrong. *How* I know this, is another question, which will be discussed later.

*Schol. 1.* One must not demand too much from formal certitude. I may be formally certain although I do not know

<sup>1</sup>See *Coffey*, *Epist. I* p. 92.

all about the subject, and although I am unable to solve all objections which might be or have been brought against my assertion. To demand either as a necessary condition (as did Leibniz, Wolff etc.), would render certitude illusory. For who on earth knows all about any subject, or who knows all objections and can solve them? *Ne quid nimis*.<sup>1</sup>

*Schol 2. Dogmatism* may be put down as the opposite of skepticism. The word "dogma" meant a settled opinion in Stoic philosophy, especially a principle of action. If taken in this sense, dogmatism is the only justifiable position (*supra* p. 39). But unfortunately, the terms "dogmatism", "dogmatic", "dogmatize" etc. usually have a sinister meaning, implying blind or unreasonable stubbornness in sticking to one's own opinion.

In Catholic usage, a dogma is a revealed truth which the Church proposes to all as revealed and therefore to be believed.

### *Schol. 3. Methodic Doubt*

Skepticism really doubts and is satisfied with the state of doubt. Methodic doubt is so called because it wishes to employ doubt only as a means to attain truth. Whereas skepticism is the counsel of despair, methodic doubt is the labor of hope.

However, "methodic doubt" has two distinct meanings. It may mean *real* doubt, but entertained for the sake of arriving at the truth. Or it may mean *fictitious* doubt, proceeding as if we doubted.

We shall say more on both kinds in later chapters.

### Readings:

*St. Augustine*, *Contra Academicos*; *Cath. Encycl.*, s. v. Certitude, Scepticism; *Coffey*, Ep. I p. 135-147; *Coppens* p. 56-9; *Cunningham* p. 6-14; *Donat*, *Critica*, thesis 44; *Jouin* p. 43; *Lahr* II p. 297-307; *Lord* p. 8-13; *Mercier-Parker* I p. 353-6; *Rickaby* p. 134-7—On causes of doubt: *Hettinger*, *Natural Religion* ch. 1.

<sup>1</sup>See *Joyce* p. 338-9; *Coffey*, Ep. I p. 145; II p. 284-290; *Rickaby* p. 117.



### **Relativism is absurd and leads to skepticism.**

1. Relativism is the theory which would make all truth to be *relative*, that is, dependent on and variable with time, place, age, person, environment etc.

According to relativists, what is true today, may become false by tomorrow; what is true in America, may be false in China; what is true for Peter, may be pronounced false by Paul etc. Truth then would vary with time, place, person etc. "Man is the measure of all things," as Protagoras put it of old.

Says the editor of the Forum (June 1929): "American thought and conduct today is a concrete exhibit in human behavior of Einstein's theory.<sup>1</sup> What is considered absolutely wrong in a village meeting, may be praised as right in a neighboring city. One group assembled at lunch condemns what another group at dinner extolls. Virtue is being measured by sliding standards instead of a fixed scale of ten commandments, and Christ's two commandments are often invoked to turn Moses' upside down."

Bertrand Russell points out the relativism underlying modern nationalism and industrial strife: "The idea of one universal truth has been abandoned: there is English truth, French truth, German truth, Montenegrin truth and truth for the principality of Monaco. Similarly there is truth for the wage earner and truth for the capitalist. Between these different 'truths,' if rational persuasion is despaired of, the only possible decision is by means of war and rivalry in propagandist insanity" (Atlantic Monthly, Febr. 1935).

2. Relativism underlies the theory of the "double truth", which was followed by the Latin Averrhoists of the 13th century, notably by Siger of Brabant. According to them,

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<sup>1</sup>Still, Einstein's theory of relativity has nothing to do with our thesis; it is a purely physical theory concerning our knowledge of some definite objects, viz. the motion and size of bodies and the simultaneity of events. Neither Einstein himself nor his more serious followers inferred from it the general theory of relativism.

something might be true in philosophy, and its opposite in theology.

3. Akin to relativism is another epistemological heresy, called *pragmatism* (F. C. S. Schiller, William James). This theory teaches that we never know whether a proposition is true in itself or not, but that we must be satisfied if our judgments "*work*." Thus  $2 \times 2 = 4$  may be called true because it always works out well; if  $2 \times 2 = 5$  worked out better, we should call that true.

Since the death of William James in 1910, John Dewey is the leader of the pragmatist movement in America, though he prefers to call his system *instrumentalism*. By many he is rated as the only American about whom has been formed a regular philosophical school.<sup>1</sup>

4. Both relativism and pragmatism are rampant today particularly in the field of religion, ethics, esthetics, metaphysics, that is to say in matters beyond sense cognition. "Many now look on philosophy as a body of doctrines purely relative to a particular age. Philosophical systems, they hold, must come and go like the fashions of our dress. We should not regard them as more than a convenient mode of representing facts" (Joyce p. x). According to Zybura (Present-day Thinkers etc. p. 119), non-Scholastic thinkers find fault with Scholastics who seem to claim that theirs is a final or definitive system. "Most non-Scholastics would insist that it is but a phase of the historical development of thought."

#### Meaning of Thesis:

As against relativism and pragmatism, we claim that there are at least some truths which are *absolute* and independent of time, place, person etc. Once true, always true.—Not only

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<sup>1</sup>See a good evaluation of Dewey's system in *Dr. O'Hara's "The Limitations of the Educational Theory of John Dewey"*—a dissertation of the Catholic University, 1929. See also *H. Wickham, The Unrealists*, ch. 7.

that, but we also claim that we can know some of these truths, so that our cognition, too, can rightly be called absolute.

Observe, however, the following points:

a. Some words are often or generally taken in a *relative* sense; e.g. big and small, rich and poor, right and left, up and down etc. A boy may be big for his age, but small compared to his father. In such cases, the relation intended should be accurately defined.

b. Poison is harmful. Yet we know (a) that poison may be medicinal in small quantities, and (b) what is harmful or even fatal for one organism, may be beneficial to another; what is poison for the goose, may be meat for the gander. A *complete* definition of a poison would therefore include the specific organism to which it is harmful, the definite quantity in which it is harmful etc.

c. There are propositions which refer to things *subject to change*; e.g. the weather was fine (yesterday), the weather was ugly (the day before). In such cases, the time or place understood should be brought out to make the proposition definite.

d. A truth may grow on us. We may understand a truth *more fully* and completely as we grow up, or a truth may come home to us on a special occasion (e.g. during a mission or retreat). But that does not change the truth in itself, nor does it make our former cognition of it false.

### Proof of Thesis

1. a. That theory is *absurd* which denies implicitly what it affirms explicitly. Now relativism is such a theory. Therefore relativism is absurd.

*Proof of minor.* Relativism affirms explicitly that all truths change with time, place etc.; but implicitly it claims that this *one* statement is itself unchangeable and absolutely true.

1. b. That statement is absurd which contradicts a *self-evident* truth. Now such is the statement of the relativist; for every sane man sees clearly that some propositions must be accepted by any sane man anywhere and at any time. Therefore relativism is absurd.

2. A theory which implies that we can never be certain, *leads to skepticism*.

Now relativism is such a theory.

Therefore relativism leads to skepticism.

*Proof of minor.* We can only be formally certain of propositions that *cannot* be false; now relativism implies that *all* propositions may be both true and false; therefore relativism implies that we can never be formally certain.

3. Also *pragmatists* must admit some absolute truths, e.g. that the multiplication table works now—or has worked in the past—or will work.

*Cor. 1.* Therefore this thesis, too, is meant primarily for those who hold some truths to be absolute. No argument could convince a man who would profess himself a relativist—and stick to it.

*Cor. 2.* Therefore some propositions may also be pronounced *absolutely false*, that is, false at all times, everywhere, to all sane individuals, to God and man; e.g.  $2 \times 2 = 5$ .

*Cor. 3.* Therefore truth cannot contradict truth (*verum vero contradicere nequit*). If it could, skepticism would follow.

### *Objections*

1. As long as John walks, it is true to say "John walks"; but when he sits down, that same proposition becomes false. Therefore what is true, may become false.

A. (a) This argument does not establish the contradictory of our thesis. We deny only that *all* our judgments are relative. (b) If the relation of time or place is brought out, there is no more contradiction between "John walks" and "John sits down."

2. What one calls good, useful, beautiful, another may call bad, harmful, ugly. Think of the weather, dress, form of government etc. Therefore truth varies from person to person.

A. Such words include a relation to something else, often to the speaker and his viewpoints. If this relation is brought out, the contradiction vanishes. Thus rain may be good for the farmer, bad for the parade.

3. If the same things were true or false for everyone, there would be no quarrels. Now there are plenty of quarrels in the world.

*A. Grant major. Dist. minor:* people quarrel about everything, *no*; about many things, *yes* (see p. 138).

4. The thesis assumes that the cognitive faculties are essentially the same in *all men*, that the intellect is similarly affected in all by the same kind and degree of evidence, that, therefore, all men are similarly impelled to assent to the same truth. Now this assumption is purely gratuitous.

*A. Dist. major:* in all men, whether normal or abnormal, *no*; in all normal men, *yes*. "This assumption itself is not, perhaps, an axiomatic truth, but is rather one of those postulates or assumptions which are indispensable to all research, and which are justified only by actual human experience" (Coffey, Log. II p. 323).

## SCHOLION

### Origin of Relativism

Relativism, which is very prevalent today, had a twofold origin:

a. *Kant's theory of cognition.* According to Kant, we can never know the "things in themselves" (noumena), but only the appearances of things (phenomena). His reason is that our cognitive faculties have their own peculiar structure, i.e. are endowed with so-called "subjective forms," on account of which we *add* something of our own to whatever we know. We say that  $2 \times 2 = 4$ , but only because such is the structure of our intellect; if we had a different intellect, we might or would judge that  $2 \times 2 = 5$ .

*Obj.* The "thing in itself" is the thing unknown. Now the thing unknown cannot at the same time be known. Therefore the "thing in itself" can never be known.

*A.* This is a pure sophism, but widely used after Kant, who invented it. We deny the major. The "thing in itself" is the thing as it is, whether it be known or not.

Kant's theory is also the basis of modern *psychologism*, which would make all our cognitions dependent on our peculiar psychology (see p. vi-vii, 154, 187).

We must indeed make a distinction between the subjective (psychological) and the objective aspect of our cognitions, particularly of our judgments. Subjectively we judge as we

do because such is the nature of our intellects: *cognitum est in cognoscente secundum modum cognoscentis*, as the Scholastics say. But objectively the standard for any intellect, human or divine or angelic, is the same.

Looking at cognition from another angle, Neo-Hegelians think that we can never know any object in itself, but only its *relations*, and that these relations are essentially figments of the mind. We shall take up this theory in the chapter on truth and error.

b. *Evolution*. This theory primarily teaches that natural species gradually evolve themselves from the lower and simpler forms to higher and more complicated ones.<sup>1</sup> As applied to man, it teaches that our intellect is only a further development of the brain of lower animals.

An epistemological corollary of the same theory is that we now hold some propositions to be true, because we have reached the *present* stage of evolution; but millions of years ago, man may have judged the opposite to be true, and nobody can tell what man will say a million years hence.

This theory then would make truth dependent on the stage of our *intellectual development*, just as the child believes in Santa Claus, whose existence the adult denies.

### Readings:

On relativism: *Bittle* p. 325-330; *Coffey*, Ep. II ch. 22; *Cunningham* p. 67-75; *Glenn*, Crit. p. 177-185; *Maher* p. 157-9; *Rother*, Truth and Error p. 76-84; *Ryan* p. 209-213.—On pragmatism: *Bittle* p. 322-5; *Coffey*, Ep. II p. 353-366; *Ryan* p. 166-177; *Walker*, in Cath. Encycl. s. v. Relativism.—On Neo-Hegelianism: *Joyce* p. 248-251, 338-9.

<sup>1</sup>Cf. *Cotter*, Natural Species (1947) p. 215-227.

## PART 2

# SOURCES OF CERTITUDE

The purpose of the first part was to show in a general way that we are *sometimes* formally certain. We showed this indirectly by pointing out the absurdity of two epistemological theories which deny all formal certitude, viz. of skepticism and relativism.

We now ask more definitely: *When* are we formally certain?

This question will be answered by an appeal to the various *cognitive faculties* with which nature (God) has endowed us to arrive at truth. They are the natural means by which we acquire *new* and *certain* knowledge. (By 'new' knowledge we do not exactly mean that which was never had before, but that which is not had, at least ordinarily, by any other means.) For this reason they are also called sources of certitude or cognition.

For the peculiar purpose of epistemology, Scholastics distinguish *five sources*: consciousness, the external senses, intellect, reason, human testimony. The objects which normally correspond to them, are: present internal facts, present external facts, concepts and first principles, truths to be demonstrated, past external facts.

We shall first of all prove the infallibility of our faculties *in general*, then point out *in particular* how far the infallibility of each extends and what cautions are to be taken against error.

## The Faculties in General

## THESIS 3

**We have many cognitive faculties, and they are *per se* infallible.**

## 1. Cognitive Faculty

A *faculty* is the natural power of doing something, that is, a power given us by nature for a certain purpose; e.g. the faculty of speaking, walking, seeing.

Faculties differ from *habits*. Faculties are innate, habits are acquired. We are all born with a certain number of faculties and can acquire no more; we are born without habits, good or bad, but we acquire them as we go along in life. Again, being innate, faculties cannot be lost, though their actual exercise may be impeded; habits can be lost, either voluntarily or involuntarily.

A *cognitive* faculty is the natural power of knowing something (*cognoscere* = to know).

Now, to *know* is to apprehend a thing *as it is*; to apprehend a thing otherwise than it is, is to misapprehend, to err. Consequently, a cognitive faculty may also be defined as the natural power of apprehending things as they are.

That which the cognitive faculty is meant to apprehend, is called its *object*. As opposed to this, we have the *subject*, which is either the whole being apprehending an object, or the faculty by which the being apprehends it.

Again, Scholastics distinguish between the material and the formal object of a faculty. The *material* object is the whole range of things which the faculty can perceive; as e.g. the eye can perceive all bodies. The *formal* object is that by reason of which the faculty can perceive things; as e.g. the eye perceives bodies because of their color.

## 2. Infallible

Infallibility is the *impossibility* of erring, or the necessity of apprehending things as they are. One who is infallible,

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<sup>1</sup>Cf. *Coffey*, Logic II p. 128-130; *Glenn*, Crit. p. 13-41; *Pyne* p. 153-9.



not only apprehends things as they are, but he must do so. He need not apprehend always, but when he does, he must apprehend rightly.

### 3. *Per se*

"*Per se*" means "*as intended by nature*," hence normally, generally, ordinarily. The opposite is called "*per accidens*," "*not as intended by nature*," "*against the intention of nature*," hence abnormally, not ordinarily. Thus to the normal eye the rose appears as red; the color-blind see it as grey, which is an abnormality.

### Meaning of Thesis

We claim that the cognitive faculties are given us by nature for the one purpose that they may reveal to us things *as they are*. We deny (a) that they are *per se* fallible, so that they would lead us positively into error, (b) that they are indifferent toward truth and error.

If a faculty be restricted to a special class of objects, it is, of course, infallible only within that class. You do not trust your eyes to tell you the temperature of the water in the bathtub.

### Adversaries

1. *John Stuart Mill* (Logic III 5, 2) vigorously objected to 'faculties'; they would, he thought, be *occult forces*, like the *vis dormitiva* of opium, explaining nothing.

But the chief opponents of the first part of the thesis are some American *psychologists*, who seem to bear a grudge against the very term 'faculty'; you may even hear scholastic philosophy decried as 'faculty philosophy.' According to J. B. Watson, "behaviorism knows only the relation between stimulus and response; what are called faculties, are due to *habit formation*, which behaviorists call the process of conditioning" (in *Encycl. Brit.* s. v. Behaviorism). R. H. Wheeler (*Science of Psych.* p. 23): "All behavior was to be de-

scribed exclusively in such physiological terms as nerve impulse, reflex and glandular response.”<sup>1</sup>

2. We may put down *René Descartes*, the father of “modern philosophy,” as the principal adversary of the second part.

Descartes, having long been besieged by all manner of doubts about what he had been taught by the Jesuits, resolved to find a solid basis for certitude. With this end in view, he resolved to doubt all his faculties, until he should come to something he could not possibly doubt. This is called *methodic* doubt. Descartes then passed in review each of his cognitive faculties and pretended to discover that none of them was trustworthy. None, that is, except consciousness. His own doubt and his own existence he felt incapable of doubting. Hence he laid down as the fundamental truth of philosophy: “*Cogito, ergo sum.*”

### Proof of First Part

A cognitive faculty is a natural power of knowing.

Now we have many such powers.

Therefore we have many cognitive faculties.

*Proof of minor:* (a) Unless one is a complete skeptic, he must admit that we truly know some things. Now “*ab esse valet illatio ad posse.*” Therefore we have the *power* of knowing things. (b) We know things by seeing them, hearing them, reflecting on them, reasoning to them etc. Now these actions cannot be ascribed to only one faculty; their modes as well as their objects are too *different*. (c) These powers are *innate*; they may be perfected by judicious use, but they are not acquired by us in the sense in which we acquire e.g. skill in typewriting. If they were mere habits, some people would have them, others would be without them.

<sup>1</sup>Cf. R. Allers, in *The Thomist* 1944 p. 323 sqq. “Functions, Factors and Faculties”.

*Obj.* Cognition implies "transcendence"; for the thing known is something distinct from and independent of the act of cognition. Now such transcendence is impossible; for neither the mind nor its act can go outside itself. (This is the fundamental difficulty of what is called "idealism" in epistemology.)

*A. Grant major. Deny minor.* (a) If this objection were valid, *all* cognition would be doomed; for it applies to every act of cognition. (b) Those who urge this objection, err in their method. We certainly know things, though they have an existence of their own (e.g. eggs at breakfast). This is a fact. How we know them, need not worry the ordinary man; and the philosopher should first accept the fact and then find out the how or why—not vice versa.<sup>1</sup>

*Schol.* Scholastics carefully distinguish two classes of cognitive faculties in man: senses and the intellect.

The *senses* are organic faculties, that is, they depend intrinsically on some bodily organ, in which and with which they work. They are either *external* (the five senses) or *internal* (memory, imagination etc.).

The *intellect* is an inorganic faculty, that is, it does not depend intrinsically on a bodily organ. Whereas, however, we have several senses, we have only *one* intellect; but this faculty has various functions; it apprehends, judges, reasons, reflects, abstracts etc.<sup>2</sup>

Perfect cognition is had by us only in the *judgment*, which is an act of the intellect (mind). The acts of the senses *merely apprehend* (experience) without judging in the strict sense of the word. They gather the raw material for the intellect to work over into judgments. This is meant by the scholastic axiom: *Nihil est in intellectu nisi quod fuerit in sensu*.

Now in epistemology we primarily speak of perfect cognition, which is certitude. Therefore we primarily speak about the *judgments of the intellect*: affirmative and negative, categorical and hypothetical.

<sup>1</sup>Cf. *Mahoney*, *Cart.* p. 79; *Rickaby* p. 273-4.

<sup>2</sup>This essential difference between senses and intellect is proved in psychology. It is not properly supposed here, but introduced for convenience.

## Proof of Second Part

1. (With regard to the *intellect judging*)

a. We are sometimes formally certain.

Now we could never be formally certain, unless our intellect when judging were per se infallible.

Therefore our intellect when judging is per se infallible.

*Proof of minor:* We cannot compare our judgments with reality, because we have no higher faculty than the intellect and no higher function than the judgment. If therefore our intellect when judging were per se fallible or indifferent toward truth and error, if its very nature were not such as to apprehend things as they are, we could *never* be certain.

*Illustration.* If I do not know that photos must, by their very nature, picture things as they are, I could never be sure by looking at a photo that the reality is like the picture. If there were a camera made purposely so as to distort reality, or at least as liable to distort as to make a correct copy, I could never trust the pictures made with it.

b. We often make mistakes when judging.

Now the very word '*mistake*' would have no meaning, unless the intellect when judging were per se infallible.

Therefore the intellect when judging is per se infallible.

*Proof of minor:* We do not say that a man took the wrong road when he is merely out for a walk; in that case, one road is as good as another. But we do speak of taking the wrong road when he sets out with a definite *goal* in mind.

c. Doubting the essential aptitude of the mind for knowing the truth is tantamount to skepticism.

*Cor.* Therefore the fact that we formulate our cognitions in judgments, does not essentially *vitate* them.

This corollary is important, because some philosophers claim that we necessarily *distort* reality when we judge. They point out that there are no judgments outside the mind, and that, to formulate a judgment, we break up reality into S and P, whereas in reality S and P are undivided.

No doubt, this method of handling reality implies an *imperfection*; God does not resort to such a roundabout way. Still the imperfection affects only the *way of knowing*, not *that which* we know; if it did, skepticism would be the inevitable result.

## 2. (With regard to *all* cognitive faculties)

If there were a faculty which is per se fallible or indifferent, (a) that faculty would be no faculty at all, (b) there would be no formal certitude at all.

Now the consequent is absurd.

Therefore also the antecedent.

*Proof of major:* (a) The very word 'faculty' implies a peculiar nature, a special purpose. (b) If one faculty can be per se fallible or indifferent, all can, even the intellect when judging; but if all faculties are per se fallible or indifferent, then certitude is impossible.

*Cor. 1.* Therefore the *formal object* of all cognitive faculties is truth.

Still, truth, as used of all kinds of cognition, is an *analogous* term. And this holds not only when we compare the cognitions of animals, men, angels, God, but also when we speak only of all human cognitions, as we do in the thesis. Truth as had in the judgment is perfect; truth as had in any other act of cognition is essentially inferior.

*Cor. 2.* Therefore the *abstraction* which we find in all our cognitive faculties, does not per se lead us into error. It argues imperfection in the mode of knowing reality, but not an essential defect. "Abstrahentium non est mendacium."

That *all* our cognitive faculties abstract in some way, was admitted by the old Scholastics and is evident. My eyes perceive only color, omitting all the other qualities of the object; my ears perceive only sound etc. Also the internal senses (memory, imagination) abstract. I can represent to myself

the shape of an apple without its color, and I can consciously fix it as such in my memory.

The abstraction proper to the intellect (see p. 53) is of an essentially different type. The intellect can omit *individuality*, which no sense can; it can even represent to itself a form without any subject at all, as e.g. animality, humanity.

Still, although these modes of abstraction are not a defect ("*privatio*"), yet, being an imperfection, they are apt to lead the unwary into *error*. We easily judge to be distinct what we perceive by distinct faculties, or we congratulate ourselves that we have grasped the whole when we have perceived only a partial aspect of it.

### Objections

1. We may be the sport of some malignant power ("malin genie," as Descartes says), who gave us faculties radically deceptive.

A. No. We can and do test or check our faculties, and we discover agreement in thousands of cases: agreement between my various present cognitions, agreement between my cognitions and those of other people. Could universal deception produce such a result?

2. Only God and the Pope are infallible.

A. There is a difference. God's infallibility is absolute, due to Himself alone; our infallibility is due to God and very limited.—The Pope's infallibility is a special divine privilege; ours is a gift of nature common to all men.

3. If all our faculties were infallible, error would be impossible. Now error is not only possible, but a reality.

A. *Dist. major*: if they were absolutely perfect, *yes*; since they are finite and imperfect, *no*.

4. To be formally certain, it is not only necessary that the faculties be infallible, but also that the intellect when judging be *aware* of this infallibility. Thus if one does not know the mechanical precision of the camera, a photo will mean no more to him than a drawing.

Now the intellect does not know this infallibility.

A. *Dist. major*: it is necessary that the intellect be aware of this infallibility either implicitly or explicitly, *yes*, explicitly, *no*.

This implicit recognition of its own infallibility is had in the very act of judging. When the intellect judges, it becomes aware of its own nature, viz. that it is made to judge in accordance with reality.<sup>1</sup>

5. Our proof *already supposes* that our faculties are trustworthy; for if they were not, or if we doubted about it, our proof would be worth nothing. But this is a vicious circle.

<sup>1</sup>This is the solution of S. Thomas (De Veritate qu. 1 a. 9). It alone renders superfluous that comparison with reality which Kant and his followers demand. Cf. *Rickaby* p. 24-8.

A. The vicious circle disappears when one realizes the purpose of this first part of Epistemology. Epistemology does not pretend to make our faculties trustworthy or to create in us for the first time a trust in them, but to reflect on their nature and working.<sup>1</sup>

*Schol.* The thesis does not rest on the scientific or philosophic explanation of the 'mechanism' of cognition. Else there would have been no formal certitude before scientists and philosophers had finished their inquiries. As a matter of fact, these inquiries are of comparatively recent date, and many questions are even now disputed. But mankind existed and was formally certain of many things thousands of years before scientists and philosophers set to work.

Hence it is wrong to say that epistemology *rests* on psychology. This would be putting the cart before the horse.

### Readings:

On Descartes' methodic doubt: *Cath. Enc.* s. v. Descartes; *Mathony*, Cartesianism ch. 2.—On behaviorism: *Gruender* p. 240-1; *H. Wickham*, The Unrealists ch. 7; *Fulton J. Sheen*, Old Errors and New Labels p. 199-209; *Bruckner*, in *The Modern Schoolman*, May 1932 p. 80-2.

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<sup>1</sup>Cf. *Coffey*, Log. II p. 113; *supra* p. 43.

## CHAPTER 2

# The Single Faculties

### I. CONSCIOUSNESS

#### THESIS 4

**Consciousness is absolutely reliable with regard to our present internal acts.**

#### 1. Definition

Consciousness is the faculty (or act)<sup>1</sup> by which we experience our present internal acts as ours. It may also be used in the sense of "awareness of our present internal acts," or of the "sum-total of our internal acts which we experience," or the state in which certain acts announce themselves as ours.

To explain :

a. To be conscious of something, means to be aware that something is going on *within* ourselves. We are not directly conscious of anything outside of ourselves, though we must be conscious to perceive external objects.

b. Consciousness *experiences* its object.

Experience here does not mean a thrill, a quivering sensation, a surge of emotion, not even a titillation. These may and at times do accompany an experience, but we prescind from them. Experience is immediate cognition of an actually existing object in the concrete. That is to say: (a) experience is not reasoning, but cognition without the aid of a syllogism; (b) we cannot experience except what actually

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<sup>1</sup>What is the psychological nature of consciousness, is rather obscure; hence we say in the definition "faculty *or* act." But this obscurity need not worry us in epistemology. Cf. *Fröbes*, Psych. spec. I p. 145-153, 201-206; II p. 46-48; *Sortais* I p. 140-1.



exists; (c) we experience the object with and in its individuality, not in the abstract; a toothache hurts worse than its definition.

c. Consciousness reveals to us our acts *as ours*. We are not merely passive onlookers; consciousness reports to us the act as being our act, not as hanging in the air or as merely somebody's. Hence we do not say: There is a toothache, or somebody has a toothache, but I have a toothache.

d. Consciousness (as act) and the act of which we are conscious are not two acts, but one and the same.

This is therefore what modern Scholastics (since Suarez) call "*conscientia directa*" or "*conscientia concomitans*." When Aristotle and the older Scholastics speak of "*conscientia*," they mean "*conscientia reflexa*," an act of the intellect as *distinct* from the act it considers (attention, introspection, reflection, judgment).<sup>1</sup>

## 2. Existence

a. That we are conscious of many of our acts and that we therefore have consciousness, is so evident that scarcely anybody has ever denied it. All the judgments whose subject is 'I' and whose tense is the present, are derived from consciousness. So are those whose subject is 'I' and whose tense is the past, though these involve another faculty also, viz. memory.—Besides, we all know and say that sometimes we are conscious, sometimes we are not (e.g. in sleep, under ether). Sometimes we are semi-conscious (e.g. on awakening).

b. Behaviorists (like J. B. Watson) not merely ignore consciousness absolutely, but deny its existence. To them consciousness is but an "indefinable phrase," and all man's actions are but "reflex actions" (like the twitchings of a muscle).

This is untenable. If behaviorism is true, then there is

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<sup>1</sup>See *Coppens*, *Logic* p. 63, 66-7; *Donat*, *Critica* p. 100-1.

no knowledge at all, not even sense cognition; if behaviorism is true, then man has no soul, at least no spiritual soul; man is no more than a brute, even less than the brutes we know; for they, too, have some sort of consciousness, though they are never self-conscious.—And how will behaviorists explain the facts of our conscious life: memory, thought, habit, desire, love, anger? Ignoring them is no explanation.<sup>1</sup>

c. Some modern psychologists (Spencer, Comte, Maudsley) claim that we are not conscious of our present acts, but only of those immediately past; “no man is conscious of what is, but only of what he was a moment before.”

Also this theory is contradicted by daily experience. To be conscious of a toothache, I do not have to wait till after the tooth is pulled.<sup>2</sup>

### 3. Object of Consciousness

a. The proper objects of consciousness are our own “present internal facts,” i.e. our thoughts, desires, judgments, emotions, decisions, affections etc.

But (a) consciousness as such advises us only of their actual presence within us; it says nothing about the *nature* or the *cause* or the *precise location* of these acts. (b) Consciousness says nothing about our *past* or *future* internal acts. (c) Consciousness does not report *all* internal acts; thus we are not conscious of the process of digestion, of the circulation of blood etc.

b. At least some of our conscious acts (e.g. thoughts, desires) have their own object, as when we think of the Sacred Heart. Such direct objects of internal acts are called the *indirect* object of consciousness.

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<sup>1</sup>Another contradiction is pointed out by Gruender, Exp. Psych. p. 364-5.

<sup>2</sup>See Rickaby p. 81-2; Fröbes I p. 5-6.

**Adversaries**

Hardly anybody before American *behaviorists* denied either the fact that we are conscious of our internal acts or the absolute trustworthiness of consciousness.

**Proof of Thesis**

1. That which all accept as true, which all feel themselves forced to accept as true, on which all rely as true, which only an insane person doubts or denies—is true.

Now all accept as true the immediate data of consciousness. Even Pyrrho, the arch-skeptic, allowed the reality of the data of consciousness, and Descartes, who tried to doubt everything, could not doubt his own thought, relying, of course, on his consciousness.

Therefore the immediate data of consciousness are true.

2. If one were to assert the untrustworthiness of his consciousness, he would contradict himself. For his assertion could only be based on its trustworthiness.

3. The only error to which consciousness could be subject, would be to mistake appearances for reality (as happens e.g. in the external senses).

Now for consciousness, appearances and reality are the same; for conscious acts exist when and as they appear.

Therefore consciousness is not subject to error.

**SCHOLION****Interpretation of Facts**

Although we cannot err as long as we rely on consciousness, yet error may slip into the interpretation of our conscious acts. Now every judgment, even if immediate, implies some interpretation. For, in every judgment we classify, bringing the subject (S) under a general, *abstract* concept.

But now (a) a man's abstract concepts may be confused, (b) the internal facts themselves may be similar and hence easily confused (e.g. toothache and neuralgia, acts of the imagination and intellect), (c) one may be careless and hasty in the classification. Moreover, (d) when a man wishes to manifest his internal acts to somebody else, the difficulty is even greater; for there may also be a defect in his vocabulary.

Still, it is clear that all these possible impediments do not pertain to consciousness *as such*. All we claim is that, as long as a man merely enunciates what consciousness reports to him, his judgment cannot err.

### *Objections*

1. To insane people consciousness often reports things which are not so; e.g. that they are kings, that they have a stomach of glass etc. Therefore even immediate judgments of consciousness can be false.

A. Insane people habitually *misinterpret* that which consciousness reports to them.

2. Those who had an arm or leg amputated, often complain of a pain in the amputated limb. Now they certainly have no pain in the amputated limb.

A. Consciousness reports to these people the presence of pain, which is true. Another question is *where* the pain is located. But the precise location of an internal fact does not pertain to the sphere of consciousness. In the case mentioned, the pain, owing to imagination, is referred at first to the amputated limb; after some time, this error of the imagination is corrected and disappears.

3. Some people imagine they are sick.

A. Sometimes such people are really sick, though perhaps not of the sickness of which they complain; they may err with regard to the nature or cause or exact place of the sickness, which lie outside the sphere of consciousness.—It may also be that a man by a series of reflex acts, persuades himself that he is sick.<sup>1</sup>

4. If consciousness were absolutely infallible, we could never doubt our internal facts. But we often doubt. Thus we sometimes doubt whether we are awake or dreaming; at other times we doubt whether or not we have yielded to a temptation, whether we are really sorry for our sins etc.

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<sup>1</sup>Actuality and its picture in the imagination resemble each other very closely. So it may come about that a hypochondriac mistakes the picture for the actuality. Even more; the imagination is at times strong enough to produce something like actuality; we have then hallucinations.

*A. Dist. major:* as far as immediate judgments are concerned, *yes*; in other judgments, *no*. The judgment that I am awake (and not dreaming) is based on the orderliness, cohesion, rationality of both internal and external facts. Hence it is not an immediate judgment. Doubts in the other two cases are due to misinterpretation of facts which are very similar.

## SCHOLIA

### 1. Nature of the Conscious Act

Let no one misunderstand us when we say that consciousness does not report the nature of the conscious act. We only mean its nature in the *abstract*. But consciousness does report its nature in the *concrete*, that is, with all its accidental and individual modifications, its duration and intensity, the succession or simultaneity of various acts etc. To abstract the nature from this conglomerate, is the work of analysis and reasoning.

### 2. Consciousness of the Ego

The Ego or self is contained in all acts of consciousness. Sadness without anybody being sad, is impossible. The *Ego as the subject* may be less prominent in cognitions than in volitions or emotions, but it is perceived all the same as part of every conscious act. Nor is it arrived at by any process of inference or reasoning, but is perceived just as immediately as the act itself. Therefore, there is not merely a "stream of conscious acts" (as Wundt, James etc. would have it), but also the Ego as the subject of all conscious acts. One is as real as the others.

H. Spencer, Zichen etc. object to this: If the Ego were perceived in the conscious act, subject and object would be identical, the subject would become its own object; now the consequent is impossible.

*A. Grant major. Deny minor.* Consciousness is a fact, and in every conscious act I, the subject, become aware of myself; I perceive my joy not merely as joy floating in the air, but as my very own. The subject thus becomes object, without ceasing to be subject. *Contra factum non valet argumentatio.*<sup>1</sup>

<sup>1</sup>See *Fröbes*, *Exper. Psych.* II p. 102; *Rickaby* p. 169-171.

### 3. Consciousness of our Body

We are not only conscious of ourselves, but also that we are *extended in space*. Certain sensations which we experience (touch, pain, cold) are evidently not concentrated in a mathematical point, but extended; we are also conscious that certain sensations, had simultaneously, are distant from one another (e.g. an itching toe and a headache); we may become aware of an increase or decrease in the distance between two simultaneous sensations even with our eyes closed.<sup>1</sup>

Therefore we are sure that we have a body, and that this body is part of our Ego.

### 4. The Subconscious

This is a modern word. It may mean what is unconscious or semiconscious. In the psychology of Freud, however, it is used as a noun and means that portion of our mental states or acts which is not directly in the focus of consciousness, but may be called into direct consciousness by the proper stimulus.

### 5. Internal Senses

Consciousness is not an internal sense. An internal sense is a perceptive faculty whose organs do not lie on the surface of our body. The Scholastics enumerated four internal senses: the "common sense", the imagination, the memory, the instinct.<sup>2</sup> Modern psychologists add others: the kinesthetic sense (ache, strain), the cutaneous sense (pain), the static sense, the alimentary sense (hunger, thirst, nausea), the circulatory sense (itching, tingling).<sup>3</sup>

From the standpoint of epistemology, the most important is memory.

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<sup>1</sup>See *Maher* p. 105; *Bittle* p. 91-5.

<sup>2</sup>Cf. *M. A. Gaffney*, *The Psychology of the Interior Senses*.

<sup>3</sup>Cf. *Gruender*, *Experimental Psychology* p. 14-18.

## 6. Memory

### 1. *Immediate memory*

At the outset, let us distinguish two kinds of memory. So-called immediate memory is the "conscious retention of a past experience side by side with the contents of the next experience which is here and now in the focus of attention" (Gruender p. 187). When we read a sentence, our eyes see the single words successively, not simultaneously, and we are conscious of the single acts of seeing. Yet, unless the sentence be unduly long, at the end the *whole* sentence is before our mind and in our consciousness; it must be—or else we cannot understand the meaning of the sentence as a whole. Nor do we, at the end, recall the beginning and the middle, as we recall the events of yesterday. The same may be observed when we read or hear a terse syllogism.

Immediate memory then is a fact. But immediate memory is also *per se infallible*. "The man who would argue against the trustworthiness of memory, would, like every other skeptic, assert its trustworthiness in his argument against it. For, to go no further than his argument itself, what happened the ten-billionth part of a second ago, is as truly past as what happened a billion centuries ago; hence he can never state his conclusion unless he trusts memory for the fact that he has stated the premises—nay, he cannot be sure that he existed when the premises were stated" (Shallo p. 123).

### 2. *Memory proper*

a. Memory proper is the faculty of retaining past acts of ours (with their objects), of recalling them and recognizing them as past. Memory proper, therefore, involves three distinct elements: *retention*, *recall*, *recognition*. The last two clearly differentiate it from immediate memory. But even in the first element there is a difference; for in immediate mem-

ory the past act continues in consciousness, whereas in memory proper retention is unconscious.<sup>1</sup>

b. Our main concern in epistemology is with recognition. When we recognize something as a past experience of ours, can we be sure of it? We answer: Yes, *per se*.

Generally speaking, "men have so much confidence in the power of the mind to recall a past mental image, and to identify its representative significance, that upon its testimony they are willing to pronounce a man a murderer and *condemn him to death*" (Pyne p. 202).—Moreover, we often test our memory and find it to *agree* with past facts; e.g. when I am away from home, I can recall the arrangement of the dining room, and on my return find that my memory was perfect.—A past act may identify itself as mine by its *details* (distinct memory).

3. Through immediate memory I am absolutely sure that my Ego is *one* and *permanent*. In spite of the incessant flow of experiences, I am conscious of the same Ego being their one and permanent subject. Experiences may overlap and vary; the Ego does not; it remains the same throughout.

The same is true of memory proper. It even bridges over chasms of unconsciousness. I am absolutely sure that I am the same today as yesterday, although there was a complete break of several hours' duration in my consciousness.<sup>2</sup>

Lastly, memory supplies us with concrete examples of *change, succession, duration, time*.<sup>3</sup>

### Readings:

*Coffey*, Ep. I p. 36-9, 283-7; II p. 1-10, 21-4; *Cunningham* p. 83-95;

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<sup>1</sup>How we *retain* an experience after it is past, is an obscure problem of psychology. Nor is the process of *recalling* much clearer, though we know that the laws of association have a good deal to do with it. See *Gruender* p. 186-195; *Maher* p. 179-207; *Pyne* p. 193-202.

<sup>2</sup>See *Fröbes* II p. 102-107.

<sup>3</sup>See *Coffey*, Epist. II p. 12-14.



*Jouin* p. 50-3; *Lahr* I p. 50-8; *Rickaby* p. 340-365; *Sortais* I p. 137-155.

On consciousness in general: *Fröbes* I p. 2, 4-5, 20-5; *Gruender* p. 2-12; *Miller* p. 35-54.—On introspection: *Brennan*, p. 7-9, 23; *Maher* p. 20-5; *Rickaby* p. 81-3; *de la Vaissière* p. xlii-xliii.—On brain and consciousness: *Lindworsky* p. 208-215.—On memory: *Brennan* p. 240-260; *Fröbes* II p. 48-66, 124-162; *Rickaby* p. 366-376; *de la Vaissière* p. 108-142.—On personality: *Fröbes* II p. 99-124; *Lord* p. 36-43.—On the Ego: *Mahony*, Cartesianism p. 55-61.—On double personality: *Allers* p. 16-21; *Thurston*, in the Month 1936 p. 336-346.

## II. THE EXTERNAL SENSES

### THESIS 5

**The world of bodies which we perceive with our external senses, is real.**

1. *Bodies.* For the purpose of our thesis, it is sufficient to define bodies as "*extended things*"; for although bodies manifest many other attributes (e.g. they are also heavy, colored, resisting), yet extension is the most common. But we are not now concerned with the ultimate nature of bodies; that is a special problem of cosmology.

Extension may be in one or two or three dimensions. We mean by 'bodies' *three-dimensional things*.

2. *External senses* are perceptive faculties whose organs lie on the surface of our bodies. How many such we have, is immaterial now. As a rule five are enumerated: sight, hearing, taste, smell, touch.<sup>1</sup>

Like consciousness, the senses do not judge; they merely apprehend. Nor do they perceive their object in the abstract, but in the concrete. Thus we never see color in general, but always this particular color. In other words, senses, like consciousness, *experience* their object (see p. 155-6).

The act by which senses apprehend their object, is called '*perception*' or '*sensation*.' Still, good usage distinguishes: sensation is the act as such, the proper object of consciousness; perception is the act inasfar as it apprehends a real object.

That which is apprehended by a sense, is called the *percept* or *sense datum*.

3. *Real* is that which exists or can exist independently of

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<sup>1</sup>Cf. Fröbes, Psych. spec. I p. 106-8.

our cognition. We claim, of course, that the world of bodies exists actually.

### Adversaries

*Acosmistic idealism* asserts that the world of bodies in which we live, is unreal, or at least that bodies exist only as and when perceived. It is called 'idealism' because it teaches that bodies exist merely *as known*, *as objects of cognition*, *as ideas*.

Now, we certainly seem to perceive bodies all around us: men, trees, houses, horses etc. Moreover, some of them seem to us stationary, others appear to move; when we ride in a train, the landscape seems to change constantly; we visit certain places for their beauty; e.g. Niagara Falls.

These are facts, testified by our consciousness and *admitted* by idealists. Therefore idealists are obliged to assign a reason why these things appear to us as they do; for idealists also admit the principle of sufficient reason ("whatever is, has a sufficient reason why it is so"). If this world of bodies is not real, then why do we see it as we do?

Acosmistic idealists differ in the answer which they give to this last question:

a. *Subjective idealists* (Neo-Platonists) maintain that we ourselves are the cause of all the phenomena described. This world is merely a dream of ours; it is no more real than are the things which we see in our dreams.

b. *Objective idealists* (Berkeley) claim that God Himself produces these phenomena in our soul, and that thereby we are led to believe in the existence of a bodily world.

Some medieval philosophers, while not going as far as Berkeley, yet allowed the possibility of such divine illusion and so denied that we can be certain of anything outside of us. Among them were Peter d'Ailly, Nicholas of Autrecourt, John of Mirecourt (14th century).<sup>1</sup>

<sup>1</sup>Cf. *de Wulf*, Hist. II p. 201.

Also among modern English and American philosophers many deny the existence of an outer world: S. Alexander Laird, the "Neo-realists", the "objective Realists" etc. The "critical Realists" (Drake, Lovejoy, Pratt etc.) profess belief in an external world, but their arguments make its existence at most conjectural.<sup>1</sup>

### Proof of Thesis

#### 1. In General

1. Speaking about cognition of the outer world, Aristotle says in his *Physics* (II ch. 1 n. 6): "It would be ridiculous to try to demonstrate that nature exists; its existence is only too obvious. And no one will prove the clear by the obscure, except he who cannot discriminate between what is and what is not known through itself." In other words, the existence of the outer world is *self-evident*.

2. "It cannot but appear to the plain man little short of astounding that any thinking person should question the real existence of the material universe or our power to know that it does exist. So widespread, if not universal, is this belief that one can call it into question only under pain of bidding defiance to the accepted dictates of *common sense*" (Ryan, *Introd.* p. 191).

3. Whether immediately evident or not (see *Schol.*), the existence of three-dimensional bodies is so evident as to *force our assent*.

Now if such a conviction could be false, skepticism would necessarily follow; for we could no longer trust any other conviction.

Therefore the conviction of the existence of three-dimensional bodies cannot be false.

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<sup>1</sup>Cf. *Revue Néo-Scholastique* 1936 p. 576-7, 580-2; *ib.* 1937 p. 574-593; *Revue de l'Université d'Ottawa* 1936 p. 102\* sqq.; *Bittle* p. 134-143.

*Obj.* This conviction is psychological, not logical.

*A.* It is both. For we are not only forced to admit the existence of an outer world, but we also see the reason why, viz. because it is so evident.

4. *Our senses* testify to the existence of an outer world.

Now their testimony is as good in their line as is that of consciousness in its line.

Therefore there exists an outer world.

*Proof of major:* (a) By 'our senses' we mean not only sight, but the most *varied* experience: the resistance which bodies offer, the pain or pleasure which they cause us, the necessity of choosing one body rather than another, the intellectual assistance we receive from other men etc. (b) We must also remember that our senses *agree* in testifying to the existence of bodies. When I stub my toe against a stone while watching the first robin of the season, and when I then look down, I also see the stone, and I may pick it up and throw it off the road. (c) We can *repeat* our perceptions. Looking around this room, we see the same objects every day.

*Obj.* If the existence of an outer world is so evident, how is it that there are so many *idealists* among philosophers?

*A.* We may give a twofold answer. (a) The idealist, when forgetting his philosophy, feels the same instinct stir within him as the rest of us; if he were not inhibited by his *a priori reasons*, which he deems unanswerable, he, too, would agree with the layman, and so make the verdict unanimous. (b) Idealists apply wrong *methods* to the problem: They isolate too much; they consider only one sense, viz. sight, whereas the world forces itself on us (and them) from all sides, day after day, under the most varied aspects; they consider primarily the physiological and psychological factors of perception, which are extremely obscure.

## 2. Against *Subjective* Idealism

If there were no world of bodies outside of us and we ourselves were the sole cause of our sense perceptions, then there would be no reason (a) why a blind man should not be able to see things as well as we do, (b) why all people

agree in seeing the same world, (c) why we should not be able to perceive anything we wanted to perceive, (d) why we should perceive anything we do not want to perceive.

Now there must be a reason for all these facts.

Therefore the world of bodies is real.

*Obj. 1.* There is no difference between the world we see in our *dreams*, and the world we see when awake. Now we are the sole cause of the world of our dreams. Therefore also of the world we see when awake.

*A. Deny major.* The world we see in our dreams, is unconnected, without order, irrational (see p. 160); not so the world we see when awake.—Besides, unless we had first perceived the actual world, we should have no dreams of a world of bodies—as the blind man who never saw any colors, does not dream of colors.

*Obj. 2.* At least, we cannot be sure that we ourselves are not the cause of the world we see, unless we know all our powers. Now we do not know all our powers.

*A. Dist. major:* unless we know all our powers negatively, *yes*; positively, *no*. Knowing our powers negatively means that we know that we cannot do certain things (e.g. jumping over the moon); knowing them positively means that we know what we can do (e.g. jumping over the fence).

*Obj. 3.* Sensations may be had without an external object. Astronomers tell us that *stars* which we now see in the nocturnal sky, may have been extinguished long ago; for it takes light hundreds and thousands of years to reach us, during which interval a star may have met with disaster. Also by the time I see a *lightning* at a distance, it certainly has already disappeared. Finally, physiologists tell us that once the external organ is stimulated, the sensory nerves do the rest *automatically* and independently of any object.

*A.* We may grant the facts mentioned, but we deny the idealistic conclusion. For in each case, there was an external object to start the process of perception.

### 3. Against *Objective Idealism*

If God produced the sense perceptions within us, He would positively lead us into error, and this error would be moreover invincible, cruel, pernicious.

Now it is against God's veracity, goodness, wisdom, holiness to lead us into such an error.

Therefore God does not produce the sense perceptions within us.

*Proof of major:* (a) God would lead us into *error*; for He would lead us to judge that there is a world of bodies outside of us, although there would be none. (b) God would not merely permit this error, but *positively* lead us into it; for there could be no other motive for God's action except to deceive us.—Moreover, this error, would be (a) *invincible*; for the sense perceptions are so regular, uniform and orderly that no one suspects them of being a sham; (b) *cruel*; for on the existence of the world of bodies depends so much of our joy, hope, pleasure, which would all be vain if no world existed; (c) *pernicious*; for there would then be no visible Church, no sacraments etc.

*Obj. 1.* In explaining facts, we must not assume more causes than are necessary ("entia non sunt multiplicanda sine necessitate"). Now, to explain our sense perceptions, it is sufficient to assume God's influence; for He can certainly produce them. Therefore there is no need of postulating a world of bodies as cause of our sense perceptions.

*A. Grant major. Dist. minor:* if God's power be considered absolutely, *transmit*; if God's power is considered as guided by His veracity, goodness, wisdom etc., *no*.

*Obj. 2.* God leads us into error in the Bl. Eucharist; for, to judge by our senses, there is bread and wine on the altar even after consecration. Therefore God can lead us into error also with regard to the world of bodies.

*A. Deny antecedent.* God does not lead us into error in the Bl. Eucharist. He works a miracle, but He also tells us in what the miracle consists, lest we be deceived.

*Schol.* The argument against objective idealism supposes the *existence of God*, but only because the adversaries themselves suppose and grant it. But there is really no need of appealing to God in order to make sure that the world of bodies exists. Just open your eyes.

In this connection, three other theories must be mentioned:

a. *Descartes* admits the existence of the world of bodies, but thinks it incumbent on himself to *demonstrate* it.

To show the urgency of such demonstration, he conjures up a difficulty of his own making. Our sense perceptions, he muses, might be due to an evil genius, so that the whole

outer world would merely be a "*diabolical illusion*." Then, in order to rid himself of this objection, he first proves God's existence and veracity, and thence concludes that our sense perceptions must be true.

But such demonstration is futile and abortive. (a) If the devil can deceive me in my sense perceptions to the extent Descartes imagines, he may also mock me when I try to prove to myself the existence and veracity of God. Why not? (b) The supposition that the world is merely a diabolical illusion is utterly absurd and leads to skepticism.

b. *Malebranche*, another French philosopher, thinks we are sure that the world exists only because God has revealed it in *Holy Scripture*. For, there we read in the first book of Genesis: "God made heaven and earth."

Also this proof is abortive. For Holy Scripture is a book and therefore itself a *body*.

c. Lastly, we may mention Card. Mercier, who says: "It is impossible to affirm with certainty the existence of the external world without having recourse to the *principle of causality*" (Mercier-Parker I p. 381).

Though this opinion is also held by other Scholastics (Fröbes, de Vries, Sortais etc.), yet it does not seem true.

That bodies are extended at least in two dimensions, is immediately evident from the senses of sight and touch (and from these alone); that they also have a third dimension, is learned gradually from experience.<sup>1</sup>

Readings:

*Coffey*, Ep. II ch. 15; *Coppens* p. 77-81; *Cunningham* p. 96-103; *Lord* p. 14-20; *Maher* p. 108-123; *Gilson*, *The Spirit of Mediæval Phil.* ch. 12; *Mahony*, *History of Modern Thought*; *R. B. Perry*, *Present Philosophical Tendencies* p. 122-132; *Rickaby* p. 258-300; *Ryan* p. 66-71, 148-166; also in *The New Scholasticism* 1927 p. 244-258; *Sortais* II p. 497-501; *Wickham*, *The Unrealists*; *Sister M. Verda*, *New Realism in the Light of Scholasticism*.

<sup>1</sup>See *Coffey*, Epist. II p. 24-30; *Rickaby* p. 296-7; *Dávila* p. 93-8; *Bittle*, p. 143-5, 183-4, 187-9; *Messenger*, in *Clergy Review* 1947 p. 113-4.



**Under normal conditions, our external senses are infallible with regard to the proper and common sensibles.**

### 1. Proper and Common Sensibles

Whatever can be perceived by a sense, is called by the Scholastics a '*sensible*'; today it is often called a '*sensum*.'

But Scholastics further distinguish between proper and common sensibles.

a. A *proper* sensible is a bodily attribute which can be perceived by only one sense. The proper sensible for sight is light (or color), for hearing sound, for the sense of smell odors etc.

The proper sensible of each sense is also called its *formal object*, because the sense cannot perceive anything unless it contains the proper sensible; thus our ears cannot function where there is no sound.

There are, of course, as many proper sensibles and formal objects as there are senses.

b. A *common* sensible is a bodily attribute which can be perceived by more than one sense; e.g. extension, figure, size, motion.

### 2. Normal Conditions

The conditions under which our external senses are infallible, pertain partly to the subject, partly to the object, partly to the medium through which the object is perceived.

a. The *senses* themselves must be normal. If a sense organ is abnormal either permanently (e.g. through color-blindness) or temporarily (e.g. the eye after gazing at the

sun), it is not reliable, and I must refrain from judging of the outer world in accordance with its testimony.<sup>1</sup>

Also the sense *impression* must not be too brief, as happens e.g. in a fast moving train, in moving pictures etc.

b. The *object* must be proportionate to the sense. Thus for sight the object must neither be too small nor too far away nor too obscure. Our eyes are neither telescopes nor microscopes nor X-ray apparatus.

c. The *medium* (if there be any) must be normal; e.g. daylight for vision, air for hearing etc.

d. With regard to the common sensibles, a further condition is required, viz. that the object be examined by *all* the senses which can perceive it.

### Adversaries

1. Descartes, Montaigne, de Lamennais profess to distrust our senses completely because we are so often deceived by them.

2. Kant denies that we can ever know what the bodies are, because we must perceive them *in space and time*, which, according to him, are purely subjective forms.

3. Some modern psychologists claim that we do not perceive the bodies themselves, but only the *differences* between them (laws of relativity and contrast).<sup>2</sup>

### Meaning of Thesis

The thesis does not say that under abnormal conditions (e.g. in the dark room of the photographer) certitude can never be had; one defect may be compensated for by improving other conditions. The thesis is therefore not exclusive. Its purpose is to prove, against the above adversaries, the *general trustworthiness* of the senses.

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<sup>1</sup>"We can know from *experience* whether our senses are sound or not. If not sound, they are generally affected by pain. If the presence or absence of pain is no guide, we can compare present with past sensations, we can compare our sensations with those of others" (Jouin p. 55).

<sup>2</sup>See *Maher* p. 90-2.

### Proof of Thesis

All our cognitive faculties are per se infallible with regard to those objects for which they were intended by nature.

Therefore under normal conditions, they must be actually infallible.

Now our external senses are cognitive faculties, and the objects of which they were intended by nature to inform us, are the proper and common sensibles.

Therefore under normal conditions, our external senses must be actually infallible with regard to the proper and common sensibles.

*Proof of first conclusion:* "Normal conditions" precisely means that everything is as it should be according to the intention of nature. Now if an error could occur even so, the cognitive faculty would be useless.

*Proof of minor:*

a. That our external senses are really *cognitive* faculties (i.e. given us by nature to apprehend things as they are), is the common belief of mankind; we all believe that we learn something about bodies by seeing them, touching them etc.

b. The primary object for which the senses were evidently intended by nature, are the *proper* sensibles; for these cannot be perceived by any other sense.

c. The secondary object for which the senses were intended by nature, are the *common* sensibles; for the perception of the proper sensibles varies with the common sensibles; a red circle looks different from a red square.

### Objections

1. To the *colorblind*, red objects appear as grey.

A. Granted. But this is due to a defect of the organ; hence it is said to be "per accidens," i.e. not as intended by nature (see p. 148).

2. According to modern science, colors and sounds are nothing more than very fast vibrations of the ether or air. Now even under normal conditions, we do not perceive these vibrations, but something altogether *different*, viz. colors and sounds. Therefore even under normal conditions, our senses lead us astray.

A. See next thesis.

3. (Kant) Our senses always perceive things *in space and time*. Now space and time are purely subjective forms. Therefore we never perceive things as they are, nor can we ever know what they are.

A. *Grant major. Dist. minor*: if by space is meant extension and by time successive change, *no*; otherwise, *transmit*. As a fact, Kant does mean by space the extension of bodies and by time their successive changes.<sup>1</sup>

4. We see the *railroad tracks* converging at a distance, though in reality they are parallel; even after we have convinced ourselves that they are parallel, our eyes continue to see them as converging. The *stars* in the nocturnal sky look no farther away even when we are told that astronomers measure their distances in light years. Something similar happens when we hear sounds in accordance with *Doppler's principle*.

A. These facts concern the *common sensible*. But a moderate experience soon convinces us that we must not be satisfied with the testimony of only one sense.

5. If I put my hand into icy water and then into tepid water, I feel the latter as very warm; but if I put my hand first into hot water, tepid water afterwards feels cold. Similarly, if I first look at a green surface and then at something greyish green, the grey stands out; but if I first look at a blue or grey, the green becomes accented.

A. How these facts are to be explained from the standpoint of physiology and psychology, lies beyond our province. As far as epistemology is concerned, the answer is simple: These perceptions are not had under normal conditions. Time should be allowed for the first sensation to *wear off*; the senses should be allowed to return to neutral.

6. An oar dipped *slantwise* into water appears broken.

A. This pertains to the figure of the oar; but the figure of a body is a *common sensible*; hence to be sure of it, the body should be examined by more than one sense.

7. We see the sun even after it has actually *disappeared* below the horizon, and we still see stars in the sky which, according to astronomers, were extinguished long ago.

A. This refers to the place of a body; now the place of a body is neither a proper nor a common sensible.

*Schol.* Apperception.

Practically speaking there is no such thing as pure perception. Every perception, especially in grown-up persons, is accompanied and surrounded by images, memories, habits, judgments, which *tend* to color and modify it. This is one meaning of apperception.

<sup>1</sup>See Ryan p. 196-7; Mercier-Parker I p. 381-3.

Nevertheless it is a fact that we can perceive things as they are. Only we must exercise *control* over our perceptions and beware of letting these subjective additions unduly influence our final judgment.

Readings:

*Coffey*, Ep. II ch. 16, 21; *Coppens* p. 81-7; *Cunningham* p. 104-118; *Glenn*, Crit. p. 42-62, 187-206; *Jouin* p. 55-8.—On errors of the senses: *de la Vaissière* p. 143-158.—On Descartes' doubts: *Mahony*, Cartesianism.—On accurate measurements: *Coffey*, Log. II p. 201-5; *Joyce* p. 363-9.—On apperception; *Fröbes* I p. 441-6; *Maher* p. 357-360; *Miller* p. 184-6; *Pyne* p. 319-323.

**The proper sensibles, especially colors and sounds, exist formally outside of our perception.<sup>1</sup>**

### 1. Proper Sensibles

What the proper sensibles are, was explained in thesis 6. If we have five external senses (as is generally assumed), there are, of course, five proper sensibles.

However, in the present thesis we single out two, viz. *colors* and *sounds*. This for various reasons: (a) very little is known even today of the others; (b) colors and sounds, more than the others, appear to us to be real and to exist independently of our perception of them; (c) the opponents of this thesis mass their attacks on these two.

### 2. Formally

This means that colors and sounds exist outside *as they are perceived* (of course, by the normal senses), not under some other form (e.g. merely as vibrations). Thus when my eyes perceive the rose as red, we claim that they do not make up the color or add anything to what exists independently of my perception, but that the red exists as such.

We do not touch the further question what is the physical or metaphysical *nature* of the proper sensibles; that pertains to the various sciences and to philosophy. Scientists claim today that colors and sounds are always accompanied by *vibrations* of some medium. If they can prove it, well and good; it does not conflict with our thesis. Similarly, it is the business of philosophers to find out under what *category* the proper sensibles are to be classified: whether they are substances or accidents, and if accidents, of what kind etc. We only prove that they are *real* beings, not mere fictions of the imagination.

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<sup>1</sup>A fuller discussion of this thesis may be read in the author's "Cosmologia."

### 3. Outside of Our Perception

This means that that which the normal sense perceives as objective, exists *independently* of the perception; hence it may exist as such even when nobody perceives it.

We do not touch the further question *where precisely* the proper sensibles exist. This question is freely discussed today by scientists. Briefly, with regard to colors the problem is this: Supposing that color is a modification of light, and light a modification of ether, where precisely is that modification of the ether which the eye perceives? Is it at the surface of the body which we call colored? Or is it at a certain distance from the eye? Or is it at the retina of the eye, as some assume? As is plain, any of these locations would be "outside and independent of my perception."<sup>1</sup>

#### Adversaries

In his Essay concerning Human Understanding (Book 2 ch. 8 n. 13-15), *John Locke* claims that nothing like the proper sensibles (which he calls "secondary qualities") exists in the bodies themselves, that they consist in "the certain bulk, figure and motion of the insensible parts," but that their impact on the senses causes our "ideas" of blue, sweet etc.

The thesis is denied today by most scientists and by some philosophers, even Catholic.

According to these, colors and sounds exist merely *causally* or *fundamentally* outside of our perception, not as we perceive them. Colors, they say, are merely transverse vibrations of the ether; but when these vibrations strike my eye, I see color (just as I see colored stars when somebody hits my eye with the fist). Likewise, they say, sounds are merely longitudinal waves of the air; but on striking our ears, they are transformed into sound (just as one hears a noise when his ears are slapped).

The thesis is *highly probable*.

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<sup>1</sup>Here lies the answer to the difficulties which M.V. and Jh. Martinet propose in the *Revue des questions scientifiques*, April 20, 1947 p. 206-7.

**Proof of Thesis**

1. Unless the proper sensibles existed formally outside of our perception, our external senses could not be called *cognitive faculties*.

Now our senses are cognitive faculties.

Therefore the proper sensibles exist formally outside of our perception.

*Proof of major:* Unless the proper sensibles existed formally outside of our perception, our senses would *per se* perceive their object other than it is. Now to perceive things other than they are, is not cognition, but an illusion. Therefore unless the proper sensibles existed formally outside of our perception, the senses could not rightly be called cognitive faculties.

*Proof of minor:* (a) This is the common persuasion of mankind; hence it is to be retained unless convincing arguments to the contrary are forthcoming. (b) All our intellectual cognition begins with sense perception ("nihil est in intellectu nisi quod prius fuerit in sensu"). Can we suppose that it begins with illusions? (c) The adversaries admit that our senses are cognitive faculties with regard to the common sensibles. Then why not also with regard to the proper sensibles? Especially since we cannot perceive the common sensibles without first perceiving the proper sensibles.

2. Kant's theory of cognition is or leads to idealism.

Now the theory here rejected is implicitly the same as Kant's, at least as regards colors and sounds.

Therefore this theory, too, is or leads to idealism.

*Proof of major:* (a) The major is admitted by all Catholic philosophers. (b) According to Kant, our cognition positively changes the object by always adding something foreign to it, yet so that we cannot tell what in our cognition



is due to the subject and what to the object. But this is or leads to idealism.

*Proof of minor:* According to the new theory, color consists in mere vibrations, mere locomotion, mere change of place. Yet we see something *altogether different*. Whence this something? Do we add it of our own? But then our senses positively change reality, and we have Kant's theory of cognition.

### *Objections*

1. This whole question about the objectivity of colors etc. pertains to the natural sciences (physics, physiology, psychology), not to epistemology.

*A. Dist.* as far as the reality of colors etc. is concerned, *no*; where there is question of the proximate nature, *yes* (or *transmit*). The present question concerns the ultimate purpose of our senses; but the ultimate purpose of our faculties pertains to epistemology, not to the sciences.

2. The purpose of our external senses is *biological*; they have been given us by nature for the preservation of the individual and the race. But this purpose can be attained even if the proper sensibles do not exist as such outside of our perception.

*A. Dist. major:* is also biological, *yes*; is purely biological, *no*. In man (whatever may be said about brute animals), the external senses are *also* given by nature for the needs of the intellect, whose object is truth.

3. Physicists have proved by a thousand experiments that colors and sounds are merely *vibrations* of some medium.

*A. Dist.* they have proved that colors and sounds are always joined to vibrations of a definite kind, *transmit*; that they are nothing more than vibrations, *no*.

How, you ask, do we know that colors and sounds are *more* than vibrations? We answer: Because our eyes and ears tell us so.

4. The senses apprehend indeed the vibrations of the medium, but because these are so *rapid*, the senses cannot apprehend them as vibrations, but as colors and sounds (just as the eye sees the spokes of a rapidly revolving wheel as a continuum).

*A.* This is falsifying the object. The senses would thus be like a witness who cannot remember the facts, and therefore relates a story of his own invention.—The example of the wheel is not pertinent, because this happens only per accidens.

5. The eye sees colors also when it is struck by the fist and the ear perceives sounds when it is slapped. Now there is no difference between these phenomena and our ordinary perceptions.

*A. Transmit major. Dist. minor:* there is no difference psychologically, *transmit*; from the standpoint of epistemology, *no*. Neither eyes nor ears are given us by nature to be punched and pommelled: therefore the facts cited are outside the purpose of the senses.

*Schol.* Primary and Secondary Qualities

Instead of proper and common sensibles, it is more customary (since Locke) to speak of primary and secondary qualities. The change is significant. What are called the primary qualities, are not the proper, but the common sensibles; the proper sensibles are called secondary qualities. The reason is precisely the error rejected in this thesis, viz. that only the *primary* qualities are real and objective.

There seems to be no reason for departing from the Scholastic view of sensible qualities, and hence it is also better to abide by their terminology.

## Readings:

*Halpin*, in *The New Scholasticism* 1936 p. 145-166; *Shallo* p. 220-1; *Dávila* p. 103-7; *Bittle* p. 201-222; *Maher* p. 152-162; *R. Allers*, in *The Modern Schoolman* 1945 p. 155-167; *A. Fauville*, in *Revue phil. de Louvain* 1948 p. 50; *Hoenen*, in *Gregorianum* 1948 p. 300-3.

### III. INTELLECT

Under this head we shall discuss the validity (a) of ideas and judgments in general, (b) of universal ideas, (c) of first principles.

#### THESIS 8

**Ideas and judgments differ essentially from sense perceptions and images; yet they are per se objectively valid.**

##### 1. Ideas and Judgments

Lest the problem at issue might seem to be prejudged, we do not, in the beginning, define these terms except *nominally*. It seems preferable at the outset to give a complete *enumeration* of the things which we mean by them. By judgments then we mean acts of human cognition corresponding to propositions; by ideas we mean acts of cognition corresponding to words as parts of a proposition. That such cognitions differ essentially from all sense cognition, and that they correctly represent to us reality—is to be proved.

##### 2. Sense Perceptions and Images

Nor do we strictly define these. But we mean by them: (a) the simple perceptions of external senses, (b) sense consciousness, (c) the simple representations of imagination and memory, (d) the more complex acts of the internal senses, such as the spontaneous completion, fusion, interpretation of both perceptions and images ("common sense").

##### 3. Objective Validity

a. An idea is said to have objective validity (to be objectively valid) if something *real* corresponds to it, i.e. if that which is conceived, is or can be something independently of the idea, or at least if there is a real foundation for the idea.

Thus, if I conceive 'house' as a 'structure fit to dwell in,' my concept is objectively valid; for there really are such things, whether I think of them or not. On the contrary, my dreams have no objective validity; nor have the fancies of poets (e.g. the gods and heroes of Homer); for nothing corresponds to them in reality.

b. Judgments are objectively valid (true) if they affirm what is and deny what is not.

#### 4. *Per se*

a. We do not claim that all our ideas are objectively valid; to some nothing may correspond in reality. Nor do we speak of any ideas in particular. We only maintain that our ideas are *per se* objectively valid, i.e. the reason why we have ideas at all, is to know *reality* through them, to get in touch with reality. This is their *purpose*, even though it may at times be frustrated.

Our ideas result either by direct abstraction from the data of experience, or are the fruit of reflection, comparison, analysis, synthesis, reasoning. The former are called "*primitive ideas*," and it is of these that we primarily speak in the thesis. That the latter, too, may have objective validity, will appear in other chapters. Anyhow, *nihil est in intellectu nisi quod prius fuerit in sensu*.

b. The same distinction applies to judgments as to the direct universal. *That which* the proposition expresses, is indeed outside of our cognition, but not the *manner* in which it is expressed. To explain. Outside of our cognition, S and P are identical, and this is what the proposition asserts. But owing to its imperfection, our mind must first separate S and P, and then join them again by means of the copula. This is the peculiar imperfection of the *human* mind; neither God nor the angels go through such a process of cognition.

#### Adversaries

1. English *sensists* and *associationists* (John Locke, David Hume, John Stuart Mill, Alexander Bain etc.) deny

that we have cognitions essentially different from sense perceptions and images. Some admit only two things in our conscious life: sensations and the laws of association; others admit besides emotions, affections, tendencies etc. as elements of our conscious life.

2. *Idealists* admit that we have ideas and judgments, but doubt or deny that these correctly represent to us reality.

a. *Kant* seems to admit that there are things existing independently of our cognition; he certainly admits that we have ideas. But he thinks that our mind is by nature equipped with "subjective forms," owing to which we always *add* something of our own to the thing known (just as one wearing blue glasses sees everything blue). Whence he concludes that we can never tell what or how things are in themselves (just as one wearing blue glasses could never tell what is the true color of a flower).

b. *Fichte, Schelling, Hegel*. Going beyond Kant, these German philosophers deny flatly that anything is real except our ideas, and hence that anything corresponds to them. According to them, our ideas are worth no more than dreams; our speech is the babble of dreamers.

### Meaning of Thesis

The *first* part must not be understood to refer merely to some abstract order; we do not merely say that such things as ideas and judgments are possible or conceivable (or imaginable, if you will). We mean to say that we actually *have* cognitions as described.—On the other hand, we do not first prove that we have ideas and judgments, and then that they differ from sense cognition. We prove at once that, besides sense cognitions, we have essentially *different* cognitions, which we call ideas (concepts) and judgments.

In the *second* part we prove that ideas and judgments, though different from all sense cognitions, yet are meant by nature to put us in touch with *reality*.

### Proof of First Part

1. (As regards ideas)

a. Some of our cognitions have for their object (a) our

own Ego, (b) universals, (c) things abstract, (d) things immaterial and spiritual.

Now such cognitions differ essentially from all sense cognitions.

Therefore some of our cognitions differ essentially from all sense cognitions.

*Proof of major:* (a) We can and do say: I see, I think, I am etc. (b) That we have universal cognitions will be proved in thesis 9. (c) We know what we mean by wisdom, virtue, philosophy etc. (d) God, as we understand Him, includes nothing corporeal.

*Proof of minor:* (a) To say "I," the subject must become its own object; this implies *reflection* (*conscientia reflexa*). Now no sense can reflect on its own act; the eye sees other things, but it cannot see its own act, not even in a mirror. (b) All sense perceptions and sensory images have for their object something singular and individual; I see this white lily, I hear this particular high C; consciousness reports to me only individual facts; nor do imagination and memory abstract from the individuality of the things represented; even what is called 'creative' imagination deals with objects in the concrete. Hence none of these objects can be predicated of many. Now universals can be predicated of many. (c) and (d) are self-evident.

*Obj.* Universal ideas do not differ much from so-called "composite images" and "typical images."

A. They differ essentially. (a) The composite image of a cat cannot be identified with any particular cat, the idea of a cat can. (b) The idea of a cat contains only the constituent notes; the composite image may contain many irrelevant features. (c) The same reasons hold for typical images.

b. Modern experimental *psychologists*, applying various methods, invariably come to the conclusion that sense perceptions and images differ essentially from ideas.<sup>1</sup>

<sup>1</sup>*Commings*, in *Thought* 1937 p. 115-131; *Gruender* p. 168, 182, 301-310, 332-345; *idem*, in *Problems of Psych.*; *Miller* p. 193-204.

*Cor.* Therefore *simple apprehension*, the act by which we acquire ideas, especially primitive ideas, is essentially different from any act of sense cognition. *Sicut esse, ita fieri.*

It was a step in the wrong direction when English philosophers began to use 'idea' for any kind of cognition. Such indiscriminate usage naturally led to the belief that there is no essential difference between our various cognitions. And this belief has persisted among British and American non-Catholic philosophers.

2. (As regards judgments)

a. If we had nothing else than sensations (perceptions and images) and their associations, we should never have *insight* into the truth of a proposition.

Now the consequent is absurd.

Therefore also the antecedent.

*Proof of major:* Neither a sensation nor an association of sensations makes us *see* that a thing must be so. But *insight* means precisely this.

*Proof of minor:* It is absurd to say that we never see the necessity of a proposition and the impossibility of its contradictory. That would be tantamount to skepticism, as it would deny formal certitude.

b. If we had no judgments essentially different from all sense cognition, our affirmative judgments and syllogisms would be *per se* false.

Now the consequent is absurd.

Therefore also the antecedent.

*Proof of major:* (a) An affirmative judgment (A, I) asserts *identity* between S and P, which had been conceived separately, i.e. by two distinct acts. Now the sense may superimpose, fuse, combine images, but it cannot identify things previously separated. (b) The same line of reasoning applies to affirmative syllogisms (Barbara, Darii), which express identity between S, P and M.

*Proof of minor:* Most of our judgments and reasonings are affirmative. Now it would be absurd to say that all of them are of their very nature wrong. This would be but one step removed from skepticism.

*Cor.* Therefore we have not only senses (external and internal), but another faculty which differs essentially from them. It is called mind or *intellect*.<sup>1</sup>

### Proof of Second Part

1. Sometimes we are formally certain.

Now we could never be formally certain unless our ideas and judgments were *per se* objectively valid.

Therefore our ideas and judgments are *per se* objectively valid.

*Proof of minor:* (a) Unless at least *some* of our ideas were objectively valid, all our judgments would clearly be valueless; for the judgment supposes ideas. But to say that all our judgments are valueless, is downright skepticism. Therefore, unless at least some of our ideas were objectively valid, we could never be formally certain. (b) Unless our ideas were *per se* objectively valid, we could never know which are objectively valid and which are not; we might perhaps guess at it. But unless we know for sure that the ideas utilized in a definite judgment are objectively valid, the judgment itself is not certain. (c) If expressing our thoughts in sentence form were essentially wrong, skepticism would follow; for certitude is had only in sentence form.

2. A theory which makes no distinction between truth and error, between the real and the unreal, between fact and fancy—is absurd.

Now idealism is such a theory.

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<sup>1</sup>The English language has several synonyms for this faculty: intelligence, understanding, reason, judgment, sense etc. For literary (not philosophical) discrimination between them, see Standard Dict. or Webster's New Dict. s. v. Mind.



Therefore idealism is absurd.

*Proof of minor:* Idealism renders any such distinction meaningless; all our assertions might be called the one as well as the other; for there would be no objective standard to distinguish.

*Schol.* Idealism, as understood in epistemology, really takes its name from this that it places the idea as an *intermediary* (medium quod) between the object and the mind. According to idealists, we do not perceive the object itself, but merely the idea of the object (just as in dreams). Hence arises the necessity for idealists to inquire if the idea corresponds to the object; for the idea might possibly distort or misrepresent the object (as our dreams do). Idealists thus put themselves in the position of a man who sees a picture, but cannot tell whether it is a photo or the vagary of a jazz artist.

Scholastics, as a rule, hold that the idea is a *medium quo* or *in quo*. But this point is not insisted on here. Our proofs are independent of the (psychological) question what *kind* of medium the idea is.

### Objections

1. Ideas are something *subjective* (within us). Therefore they can tell us nothing about reality.

A. *Dist. antec.* something purely subjective (like a toothache), *no*; something subjective whose purpose is to put us in touch with reality, *yes*.

2. All we know is our own ideas. Our mind can never go out of itself to see if things are as we conceive them (see above p. 150).

A. No. Our ideas are given us by nature that we may know reality in its various shapes. Nor is there need for the mind to 'go out of itself'; by *reflection* we are aware that our mind is of such a nature that we necessarily apprehend (at least in direct abstraction) things as they are.

To illustrate. Suppose a friend of yours sends you a photo of St. Peter's at Rome. You are sure that St. Peter's looks like the photo; you need not go to Rome to be sure of it; you know that photos must, owing to physical laws, represent things as they are. Similarly reflection tells us that it is the law of our intellect to mirror reality (see p. 151).

3. To make sure that our ideas are objectively valid, we ought to *compare* them with the things they represent. Now such comparison is evidently impossible.

*A. Deny major.* Because we know the nature of cameras, we are sure that the reality is as the photo shows it to be; we do not have to compare photo and reality.

Every judgment logically supposes a comparison between S and P (see p. 50). But idealists talk about another comparison, viz. between the judgment itself and reality. To compare these directly (as we would a bungalow with its picture in the advertisement), is clearly impossible; we should need a faculty above the intellect. But we can and do compare them *virtually*, viz. by reflecting on the nature of our mind (see p. 153).

### Readings:

On the difference between phantasm and idea: *Clarke* ch. 6; *Joyce* p. 15-7; *Coffey*, *Log.* I p. 2-5.—On English sensists: *Fröbcs* I p. 417, 424, 609; *V. M. Hamm*, in *Thought*, Dec. 1936 p. 378-391.—On composite and typical images: *Gruender* p. 345-8; *Miller* p. 183-5.—On idealism: *Bittle* p. 98-118; *Mahony*, *Cart.* p. 73-9; *Glenn*, *Crit.* p. 63-90, 211-222; *Cath. Encycl.* s. v. Idealism; *Rickaby* p. 301-314.

**Universals are neither mere words nor mere figments of the mind, nor yet do they exist as such outside of our mind.**

### 1. Universals

In thesis 8 we defended the objective validity of ideas or concepts in general. But universal ideas, owing to their special nature, call for special treatment. Hence in this and the next thesis we shall discuss the objective validity of universal ideas.

It is customary, however, to speak of *universals* rather than of universal ideas. The reason is methodological. As we shall see presently, some philosophers deny that there are universal ideas, admitting only 'common terms.' Hence prior to proving the existence of universal ideas, we use the term 'universal' *vaguely* as "one thing which can be predicated of many"—whether it be now a word or an idea.

### 2. The Problem of Universals

That we have and constantly use common terms, no one denies. They make up by far the greater part of our vocabulary, as any dictionary shows.

But what is their meaning? What corresponds to them independently of our speech? Above all, have we also universal concepts? And if so, are they, too, objectively valid and how far?

Needless to say, the problem is not concerned with this or that definite universal concept. We speak of the universals *as such*, though of both direct and reflex universals.

### 3. Three Wrong Solutions

a. *Nominalists* hold that universals are *mere words* and can be no more. They admit, of course, the existence of

common terms, but they deny flatly that there are corresponding universal concepts in our mind or that things themselves are in any sense universal.

Nominalism is widespread today, especially among English-speaking philosophers. It was taught boldly by *John Locke* in his *Essay* (Book 3, ch. 3.).

b. *Conceptualism* is less radical. Conceptualists admit that we have and use common terms; they also admit that we have corresponding universal ideas. But they deny that universal concepts have any objective validity. To them universal ideas are mere fictions or *figments of the mind*.

The principal conceptualist of our times is *Kant*. According to him, universality is one of those "subjective forms" (categories) which the mind adds to the data of the senses, though there is no objective reason for it.

c. *Exaggerated realism* insists strongly that we have universal ideas and that they are objectively valid. But it exaggerates this validity. According to it, things themselves are full-fledged universals.

But when asked where and how universal things exist, the advocates of this theory differ in their answer: (a) According to *Plato*, the universals exist in some "heavenly place," while the objects which we see around us, are merely imitations of them. (b) *William of Champeaux* (12th century) taught that the universals exist in each individual, so that e.g. Peter would be made up of a universal man plus an individuality of his own.

With regard to *predicables*: According to some philosophers, who are both rationalists and idealists (Parmenides, Plotinus, Hegel), the conceptual order is not merely based on the real order, but identical with it; our predicables and Trees of Porphyry are perfect parallels of reality; "cogitari est esse."<sup>1</sup>

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<sup>1</sup>See *Klimke* I p. 22, 70; II p. 55; *Coffey*, Log. I p. 147; II p. 241-3.

### Proof of Thesis

#### 1. *Against Nominalism*

a. If we had no universal concepts, we should have no common terms.

Now we have common terms (e.g. man, horse, flower—in fact, most of the words in any language are common terms).

Therefore we also have universal concepts.

*Proof of major:* Terms and words are natural signs of our thoughts, and as our thoughts, so our speech. Therefore, if all our concepts were singular, all our terms should be proper (like Julius Caesar).

b. If the reflex universals (e.g. genus, species, class) were mere words, science and philosophy would at most be a well-constructed language.

Now the consequent would be the death-knell of both science and philosophy.

Therefore also the antecedent.

*Obj. 1.* Whatever exists by itself, is singular. Now all our concepts exist by themselves. Therefore they are all singular.

*A. Grant major. Dist. minor:* our concepts considered subjectively, *yes*; objectively, *no*.

*Obj. 2.* There is nothing in the intellect except what was in the senses. Now in the senses there is nothing universal; for the senses experience only the singular (see p. 156, 165). Therefore there is nothing universal in the intellect.

*A. Dist. major:* except what was in the senses in the same way, *no*; in some way, *yes*.

#### 2. *Against Conceptualism*

If our universal concepts were mere figments of the mind, (a) our logical judgments would be per se false, (b) science and philosophy would be without value.

Now the consequent cannot be admitted.

Therefore neither the antecedent.

*Proof of major:* (a) A logical judgment is one whose predicate is a universal (e.g. Peter is a man, Fido is a dog,

the lily is a flower). Now if direct universals were mere figments, I would say that I conceive Peter as a man, but whether or no he is a man, I have no means of telling. (b) The ultimate purpose of both science and philosophy is the construction of predicamental trees, which are based on reflex universals; therefore, if the reflex universals are pure fictions, so is science and philosophy.

*Cor.* Therefore our universal concepts (direct and reflex) must have some objective validity.

*Obj.* There is nothing that could be both one and many. Now if reality corresponded to our universal concepts, it would have to be both one and many. Therefore nothing corresponds to our universal concepts.

*A. Dist. major:* under the same aspect, *yes*; under different aspects, *no*. The unity of the universal is logical, the multiplicity is real.

### 3. *Against Exaggerated Realism*

Nothing that exists by itself (i.e. independently of our cognition), can be both one and many under the same aspect.

Now if universals existed as such, they would have to be both one and many under the same aspect; for the universal is "one in many," i.e. one identified with many.

Therefore universals cannot exist as such by themselves.

*Proof of major:* Whatever exists by itself, is individual, i.e. divided from everything else.

*Obj.* Our universal concepts are objectively valid. Now they would not be objectively valid, unless universals existed as such outside of our cognition.

*A. Grant major. Deny minor.* The positive solution of this difficulty is to be found in the next thesis.

### Readings:

*Bittle* p. 223-265; *Coffey*, Log. I p. 6-11; Ep. ch. 10-12; *Joyce* p. 132-5; *Mercier-Parker* II p. 382-3, 386-8; *Rickaby* p. 332-9; *Varvello* p. 122-6; *de Wulf*, History of Medieval Phil. I p. 100-115; II p. 179-182.

**That which we conceive by the direct universal concept, is real, though not in the manner in which we conceive it. The reflex universal concepts, however, are figments of the mind, though they, too, are based on reality.**

The solution of the problem of universals which is here offered, is called *moderate realism*, and represents the *common* teaching of Scholastics. It is the only solution that does not lead us into absurdities.

As is clear from the wording of the thesis, we do not claim the same objective validity for all our universal concepts, but distinguish sharply between direct and reflex universals.

a. As regards the direct universal, we distinguish between *that which* we conceive, and the *manner* in which it is conceived. And we claim that that which is thus conceived by the mind, exists or can exist independently of our concept; but we deny that it can exist as it is conceived, i.e. without any individuality.

b. As regards the reflex universal, we grant that even *that which* is conceived, is a figment of the mind, and that therefore nothing corresponds to it in reality. Nevertheless, we claim that there is something in the things themselves which gives us the right to construct such figments. This is meant by saying that the reflex universal concepts are based on reality, have a *foundation* in reality.

### **Proof of First Part**

a. If *that which* we conceive by our direct universal concepts, were not real, our logical judgments would be per se false.

Now our logical judgments cannot be per se false.

Therefore that which we conceive by our direct universal concepts, must be real.

*Proof of major:* Unless that which is conceived in the predicate of a logical judgment, were real, it could not be *identified* with a real subject; yet this is done in every logical judgment; for the copula 'is' expresses identity.

b. The direct universal is conceived so as to omit individuality; else it could not be predicated of many.

Now nothing can exist without some individuality.

Therefore the *manner* in which the direct universal is conceived, is not real.

*Proof of major:* Thus if I know what the word 'man' means, I conceive 'rational animal.' But this concept omits the individuality of the single men existing or possible; it says nothing e.g. about Peter's height, weight, age, parents etc.; nor does it say anything about Paul's height, weight etc. But these are the things precisely which constitute their individuality; by them we distinguish one man from another.

*Cor. 1.* Therefore the manner in which things are in the mind, *differs* from the manner in which things are in themselves. In themselves, all things, existing or possible, have their own individuality; but the mind, when conceiving them, omits this entirely.

An objection might be raised against this explanation. For if it were true, then our mind would not represent things as they are. But to represent things *otherwise* than they are, is to falsify them, to err (see p. 147).

We distinguish the major: *that which* we conceive, differs from what things are, *no*; the mind does not represent things *completely*, i.e. so as to omit nothing, *yes*. There is then difformity between mind and object; but this difformity is merely negative. Error lies in positive difformity (see p. 270).

Therefore there is a vast gulf between our position and that of *Kant*, according to whom our mind always *adds* something of its own.<sup>1</sup>

*Cor. 2.* Therefore we have the power of intellectual *abstraction*, i.e. the power of conceiving something without its individuality.

<sup>1</sup>See *Coffey*, Epist. II p. 228-232.



*Obj.* Berkeley: "Whether others have this wonderful faculty of abstracting their ideas, they best can tell; for myself I dare to be confident I have it not."

A. The good bishop also had this "wonderful faculty," whether he realized it or not. The many *common* terms occurring in his books prove it.

A further question, not without its interest, is how direct universal ideas come about, or in what intellectual *abstraction* consists. Now, as ideas themselves, so abstraction, too, may be considered objectively and subjectively. A few remarks on both aspects must suffice.

a. Considered *objectively*, abstraction may be explained in two ways. The intellect may conceive the universal without first knowing the individual as such, or it may first know the individual and then, by gradually eliminating all individuality, arrive at the universal concept.

Following St. Thomas, Scholastics more commonly explain the origin of ideas by the former method. But some (e.g. Suarez) claim that all our ideas are originally singular, and that universal ideas are arrived at only by formally comparing individuals (i.e. by noting their likeness and unlikeness).

b. This difference of opinion appears again when psychologists, considering abstraction *subjectively*, try to explain the various *acts* comprised in abstraction.<sup>1</sup>

c. The two views may be reconciled by saying that the so-called *primitive* ideas originate in the first manner, all others in the second. We abstract immediately such notions as being, existence, quantity, cause, motion etc., but many individuals have to be observed and compared before we have the essential definition of iron, horse, oak, man etc.<sup>2</sup>

*Schol.* It is a question of words whether we should

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<sup>1</sup>This uncertainty, however, does not react on our thesis. Even though we may be ignorant of the origin of a thing, we may be sure of many others of its attributes.

<sup>2</sup>Cf. *Cotter*, *Natural Species* p. 118-129.

call the direct universal a real being or a figment of the mind. According to our thesis, both reality and the operation of the intellect concur in its formation. But *as* a universal it can only exist in the mind.

### Proof of Second Part

a. A figment of the mind is something which cannot exist except objectively in the mind (as object of the mind).

Now *that which* we conceive by the reflex universals, exists indeed objectively in the mind, but cannot exist otherwise.

Therefore the reflex universals are figments of the mind.

*Proof of minor:* That which we conceive by the reflex universals, is 'one *as* common to many'. Now one *as* common to many cannot possibly exist outside of the act of cognition; for only what is individual, can exist by itself.

b. The reflex universals are based on reality if reality offers us a *reason* why we conceive one *as* common to many.

Now reality offers us such a reason.

Therefore the reflex universals are based on reality.

*Proof of minor:* This objective reason is the *likeness* and *unlikeness* which actually exists between the natures of individuals. Thus Peter and Paul are like each other inasmuch as both are rational animals; they are unlike each other as regards age, size, weight etc. Men and horses are like each other inasmuch as both are animals; they differ inasmuch as only men are rational.

*Cor. 1.* Therefore *predicables* have a foundation in reality, though in themselves they are figments of the human mind.

*Cor. 2.* Therefore the Tree of Porphyry, too, is a figment of the human mind. That it is based on reality, is shown in other parts of philosophy.

Porphyry, however, who was the first to suggest it, did not dare to pronounce himself on this question.

*Cor. 3.* Therefore we have the power of *systematizing*, that is, of constructing an orderly whole by coordinating and subordinating ideas (see p. 96-100).

*Cor. 4.* Therefore the ultimate goal of all knowledge, which is the *system* (*scientia*), is possible.

*Cor. 5.* Therefore the human mind is by no means a purely passive faculty. It is indeed passive at first, inasmuch as it must wait for experience, internal or external, before it can begin *its proper work*; but aided by experience it eventually arrives at cognitions which transcend all mere sense perceptions.

It was the fundamental mistake of 18th century English philosophy (Locke, Berkeley, Hume etc.) to imagine the human mind as a purely passive faculty and to interpret the old scholastic axiom "*nihil est in intellectu nisi quod prius fuerit in sensu*" as well as the convenient label of "*tabula rasa*" in that sense.

#### Schol. *Existentialism*

One—speculatively the worst—defect of the new school of existentialism is its *neglect of universal ideas*. No, existentialists do not deny that we have universal ideas or that they are objectively valid. But they fail to see the importance of universal ideas both in the speculative and the practical order. Hence they are mired down in the actual, the concrete present, knowing neither past nor future.

The philosophy of existentialism is one of helplessness and despair, with suicide as the only way out.<sup>1</sup>

#### Readings:

*Cath. Encycl.* s. v. Universals; *Coffey*, Ep. ch. 9; *Coppens* p. 117-9; *Joyce* p. 132-5; *Mercier-Parker* I p. 377-384; *Rickaby* p. 314-331; *Shallo* p. 117-120; *Varvello* p. 126-132.—On abstraction: *Gruender*, ch. 14; *Maher* p. 293-302; *Pyne* p. 267-279.

<sup>1</sup>Cf. *Copleston*, in *The Month*, Jan. and March 1947; *idem*, in *Dublin Review* 1947 p. 50-63; *idem*, in *Philosophy* 1948 p. 19-37; *Arnou*, in *The Modern Schoolman* 1947 p. 193-207; *M. Blondel*, in *The Thomist* 1947 p. 393-7; *V. E. Smith* *ib.* 1948 p. 297-329; *J. Collins*, in *Thought* 1948 p. 59-100.

**There are immediate analytic principles, which have objective validity and are absolutely necessary.**

## 1. Immediate Analytic Principles

a. A principle is a universal proposition, that is, a proposition whose subject (S) is a universal term used distributively. It may be affirmative (e.g. man is mortal) or negative (e.g. man is not a mere brute).

The reason why universal propositions are called principles, is because from them other truths may be *derived* by deduction. But this point is not insisted on here. Still the thesis refers to both the formal and the material principles of deduction.

b. Nowadays, principles are divided into analytic and synthetic.

An *analytic* principle is one in which the motive of assent lies in the abstract concepts themselves, inasmuch as a mere consideration of them is sufficient to furnish the evidence for their truth. Thus when considering the relation between the abstract concepts of 'whole' and 'part,' I see that the whole is bigger than its part. The motive of assent here is not experience, not because I have seen this relation verified in a number of instances; but the abstract notions themselves furnish me with the necessary evidence.

*Synthetic* principles are those in which experience is partly the motive of assent; e.g. iron sinks in water.

c. *Immediate* principles are those which need no demonstration to make their truth manifest to us. Like the sun, they bear their light within themselves and need no illumination from without.

*Mediate* principles are those which require demonstration; e.g. many theorems in geometry.

An analytic principle may be immediate or mediate; synthetic principles are always mediate.

## 2. Objective Validity

Objectively valid are those principles to which things outside of our cognition correspond. Thus if the principle 'man is mortal' has objective validity, then all individual men are and must be mortal.

## 3. Necessity

*Absolutely* necessary are those principles to which things correspond under all circumstances, so that no exception is possible.—Other principles are only *hypothetically* necessary; e.g. iron necessarily sinks in water; but God may work a miracle and not allow it to sink.

## Adversaries

1. Modern *positivists* (D. Hume, Aug. Comte, Taine, John Stuart Mill) deny that there are any analytic principles, or at least that their necessity is absolute. John Stuart Mill denies even the absolute necessity of mathematical axioms (arithmetic, algebra, geometry etc.). According to him, such principles are derived from constant experience; their necessity is psychological. He also thinks that we adhere to the principle of contradiction because no case has ever come to our notice where two contradictories were simultaneously true.<sup>1</sup>

2. *Kant* does not deny that we formulate, nay must formulate principles, which appear absolutely necessary; but according to him, they are mere *laws of thought* (i.e. we cannot think of things otherwise), not *laws of being* (i.e. that things must be as the principles say). Thus Kant would say that we cannot judge otherwise than that the whole is and must be bigger than any of its parts, but that we cannot say if this is invariably so in reality.

3. According to *evolutionists* (H. Spencer), first prin-

<sup>1</sup>See *Rickaby* p. 73-81.

ciples are now laws of thought, but only on account of the past experience of the human race.

### Meaning of Thesis

1. We do not speak of any analytic principles in particular, but merely show that there must be *some*. In other parts of philosophy, we shall show that certain principles are really analytic (and immediate); e.g. the principle of contradiction, of identity, of excluded middle, of sufficient reason, of substance, of causality, of finality etc. An important principle is the "aptitude of the mind," which is affirmed (and therefore first known) in every judgment. Most, if not all, mathematical axioms are analytic.

2. Beware of confounding first principles (or true principles in general) with common or pithy sayings, with practical maxims or proverbs, with political slogans or the ipse dixit of some professor. The latter may be commonly or often true, the former are always and universally true. Unfortunately, even Card. Newman is guilty of such confusion in his *Grammar of Assent*, when he puts down as a universal principle the common saying "Every man has his price."

### Proof of First Part

The thesis is most fundamental in scholastic philosophy. It is, of course, incapable of strict proof, but it may be brought home to the skeptic in various ways; e.g. by pointing to children who always ask why, and with whom one may even reason, showing that they are convinced of the universality of certain principles. Even adversaries admit it in unguarded moments.<sup>1</sup> A man who would flout these first principles either in his daily life or in his speech, would be judged crazy and impossible to live with. Our proofs bring out the connection with other theses.

1. If there were no immediate analytic principles, there would be no formal certitude.

Now there is formal certitude.

Therefore there are immediate analytic principles.

*Proof of major:* (a) To be formally certain, I must see that the thing is so and cannot be otherwise. But this is impossible unless the principle of contradiction holds, viz. that a thing cannot be and not be at the same time. (b) We are only certain because we can rely on the aptitude of our mind to know reality.

2. There are principles.

<sup>1</sup>See *Rickaby* p. 83-8.

Now there could be no principles unless there were immediate analytic principles.

Therefore there are immediate analytic principles.

*Proof of major:* If there were no principles, all our propositions would be singular; but they are not.—Modern scientists admit at least synthetic principles.

*Proof of minor:* (a) If there were no analytic principles, all principles would be synthetic; but synthetic principles have no necessity except in so far as they are based on analytic principles (as will appear from the next thesis). (b) If there were no immediate principles, all principles would require demonstration; but not all can be demonstrated; for demonstration itself supposes principles (see p. 107).

3. Mathematical propositions are universal. In geometry, what holds of one, holds of all (*ex uno disce omnes*).

Now mathematical propositions are either self-evident (immediate) or deduced from such (mediate).

But they cannot all be deduced from others.

Therefore there are first self-evident mathematical propositions.

*Cor.* Therefore it is unwise to try to *demonstrate* all analytical principles. Such attempts can have only one result, viz. to render obscure what is clear (like looking at your room through a telescope).

*Obj.* Principles derived from *experience* are not analytic. Now all principles are derived from experience; for nothing is in the intellect except what was in the senses. Therefore there are no analytic principles.

*A. Dist. major:* if experience is partly the motive of assent, *yes*; if experience is merely the *occasion* for formulating the principle, *no*.

*Schol.* St. Thomas also teaches that we must abstract first principles *directly* from experience, just as we abstract primitive ideas. Nevertheless the human mind goes beyond experience when it sees and asserts the universal relation

between S and P; for experience can give only particular instances.<sup>1</sup>

### Proof of Second Part

Unless the first principles were objectively valid, also the certitude based on them and the conclusions drawn from them would be null and void.

But this consequent is tantamount to skepticism.

Therefore also the antecedent.

*Cor.* Therefore our analytic principles are not merely laws of thought, but also laws of being. In fact, they are laws of thought *because* they are laws of being; for our mind, while imperfect, is *made to know reality* (being).

### Proof of Third Part

Those principles which flow from the essences of things, are absolutely necessary (like the essences themselves).

Now immediate analytic principles flow from the essences of things.

Therefore they are absolutely necessary.

*Proof of minor:* Abstract notions express only what pertains to the essences of things; else they are not strictly universal. But immediate analytic principles are derived from abstract notions.

*Cor. 1.* Therefore, we may also be sure of *negative universals*, that is, that some things will never come to pass. Thus we are sure that no circle will ever be square; for we clearly see that the notes of these two figures are absolutely incompatible.

*Cor. 2.* Therefore there is in us a power by which some universal principles, common to all knowledge, are known

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<sup>1</sup>See *Hoenen*, in *Gregorianum* 1933 p. 153-184; 1939 p. 19-54; *E. H. Ziegelmeyer*, in *The Modern Schoolman* 1945 p. 132-143. Compare Newman's "illative sense", on which see *The New Scholasticism* 1932 p. 53-5.



without strict proof. This power is called by Scholastics "*lumen rationis*," "*intellectus principiorum*," "*intellectus agens*."

*Cor. 3.* Therefore *metaphysics* is possible.

*Schol. 1.* First principles as defined above are self-evident and absolutely certain. Their number is by no means small.

However, one must beware of thinking that all abstract statements are eo ipso self-evident. Some are only *probable*, others false.—Another error would be to erect one such probable or false statement into a first principle, and to build on it a whole system (as evolutionists are doing). It would be the fallacy known as "undue assumption of axioms."

*Schol. 2.* There are also first *moral* principles, the highest being "*bonum faciendum, malum vitandum*". They are self-evident truths in the field of moral conduct, which every sane person will admit if he understands them. Conscience applies them to particular actions.

*Schol. 3.* There are also first principles of *method*; e.g. every good method proceeds from what is known to what is unknown, from what is clear to what is obscure, from what is certain to what is not; "*contra factum non valet argumentatio*"; the imperfect is to be judged by the perfect, not vice versa; "*gratis asseritur, gratis negatur*"; "*entia non sunt multiplicanda sine ratione*," i.e. one must not assume more or higher causes than are necessary for an adequate explanation etc. See Newton's Rules of Philosophizing, in Joyce p. 348-353.

### Readings:

*Coffey*, Log. I p. 23-8, 170-180; II p. 10-13; Ep. ch. 5-8; *Coppens* p. 70-2; *Cunningham* p. 119-124; *Jouin* p. 47-9; *Joyce* p. 51-5, 67-76, 398-405; *Mercier-Parker* I p. 368-376, 386-8; *Rickaby* p. 68-107; *Shallo* p. 121-2.—On the undue assumption of axioms: *Coffey*, Log. II p. 322-7; *Joyce* p. 278.

## IV. REASON

### THESIS 12

**Under certain conditions, not only deduction, but also induction and the cumulative argument lead to formal certitude.**

Generally speaking, reasoning or inference is the mental transition from the known to the unknown. That is, from propositions which we know to be true, we pass to another which we had not known to be true, but which we now see to be also true, viz. on account of its *connection* with the former (see p. 69, 76). Because most of our knowledge is acquired by reasoning, not by intuition, man is called a *rational*, not an intellectual animal.

There are three processes of reasoning or methods of passing from the known to the unknown. In *deduction* we pass from a strictly universal proposition to another equally universal or to a particular. This is the syllogism, which may be categorical or hypothetical. We speak of both.—In induction we pass from some particular propositions to one that is strictly universal. Induction may be complete or incomplete; we speak chiefly of *incomplete* induction (see p. 86, 110).—In the *cumulative argument* we pass from some particular propositions to one that is again particular (see p. 91-2, 110).

#### Conditions of Certitude

The conditions under which the conclusions reached by these three processes are formally certain, vary with the process employed:

1. For *deductive* reasoning two conditions are required: (a) the *premises* must be certain; (b) the *form* must be cor-

rect, i.e. none of the rules laid down for the syllogism (categorical or hypothetical) must be violated.

2. For *inductive* reasoning only one condition is necessary, viz. the induction must be *perfect*. It need not be complete, but it must be shown that neither external circumstances nor internal (logical) accidents can account for the facts observed. When this has been done, induction, even though incomplete, is called perfect; else it is imperfect.

3. To arrive at formal certitude through a *cumulative argument*, two conditions are necessary: (a) the single items must be *independent* of one another (e.g. there must be no collusion between witnesses); (b) they must all point to the *same* fact as their explanation. Hence the argument is also called "from converging probabilities."

### Adversaries

1. *Positivists* claim that the *categorical* syllogism is useless, because the major, being a universal proposition, already contains the conclusion, and could not be known to be true unless the conclusion, too, were known to be true.

2. Positivists also claim that *induction* never leads to formal certitude, but at most to a high degree of probability. They think that the sole ground for generalization are repeated observations and experiments.

The logicians of *Port Royal* likened induction to the argument from analogy whereas some English logicians grounded it on an argument from hypothesis ("hypothetical deduction"); therefore neither granted induction more than probability.<sup>1</sup>

3. According to *Scotus*, the possibles (essences, properties, laws) and hence the uniformity of nature have their ultimate foundation in God's free will. If this were so, induction could never lead us to strict universals.

<sup>1</sup>See *Lahr* I p. 609; *Joyce* p. 341-4.

**Proof of First Part**

*Observe.* There is natural reasoning and scientific reasoning, natural logic and scientific logic. That *natural* reasoning is per se an infallible method of arriving at the truth, cannot and need not be proved. We use this method every day; both scientists and philosophers rely on it in their lectures and books; even children at an early age will reason correctly and be sure of their conclusion. But we now explicitly defend the validity of *scientific* deduction, that is, the syllogism and the rules laid down for it in scholastic logic (Barbara, Celarent, Darii, Ferio).

If, supposing the premises to be certain, a correct deductive syllogism could lead to a false conclusion, its formal principles could be false.

Now the formal principles of the deductive syllogism are absolutely certain.

Therefore, supposing the premises to be certain, a correct deductive syllogism cannot lead to a false conclusion.

*Proof of major:* A deductive syllogism is correct if the rules of the syllogism are observed. Now the rules of the syllogism are nothing else than an application of the formal principles of the syllogism: the principle of identity in categorical syllogisms, and the principle of sufficient reason for hypothetical syllogisms. Therefore if a correct syllogism could lead to a false conclusion, its formal principles could be false.

*Proof of minor:* Both the principle of identity and that of sufficient reason are analytic and immediately evident.

*Cor.* Therefore also *negative universals* (Celarent) can be proved.

*Obj. 1.* (John Stuart Mill) The major, being a universal proposition, necessarily supposes the conclusion to be true and known as true. Therefore the deductive syllogism is *useless*.

*A. Dist. antec.* to be true, *yes*; to be known as true, *subdist.* virtually, *yes*; formally, *no*.

Take an ordinary example: Man is mortal; Laban is a man; therefore Laban is mortal. Of course, if in reality Laban were not mortal, the major would not stand. Moreover, when I assert the major, I implicitly assert that Laban, too, is mortal; I also know this *virtually*,

inasmuch as, with the aid of the minor, I can arrive at the conclusion. But I cannot know the conclusion *formally* without this aid; Laban might be the name of an archangel or of a constellation in the heavens or of a chemical element.<sup>1</sup>

The same objection is sometimes urged differently. The deductive syllogism, it is said, teaches us nothing *new*, and is therefore *useless*.

There is some truth in this contention. The main purpose of the deductive syllogism is not to discover new planets or new ways of preparing breakfast, but to bring *order* and *system* into our knowledge. Now is not this also something new? Nay, is it not far more important than a thousand patents secured from Washington? The Summa of St. Thomas is still hailed as the work of a genius. Not because it added to the sum of positive knowledge, but because it organized into a well-rounded whole the truths already known. The world today would acclaim as a genius the man who could change our encyclopedias into one grand Summa. Even Will Durant sees the desirability of such a unifying philosophy (Story of Philosophy p. 102).

*Obj. 2.* F. C. S. Schiller argues that the middle term is always ambiguous, that is, used in two senses, and that therefore every syllogism has *four terms*.

*A.* (a) This would be intellectual dishonesty in every one who reasons deductively. (b) If it were so, either the major or the minor would be false.

*Obj. 3.* The same logician also argues that there is an *infinite regress* in every syllogism, inasmuch as each premise must be proved by a syllogism, and the premises of these new syllogisms must again be proved etc.

*A.* There are first self-evident truths, both universal and particular, which need not and cannot be proved, at least not by a direct syllogism.

*Obj. 4.* History tells us that syllogisms have led to many errors, and that all heretics use syllogisms to bolster up their doctrines. Will Durant (ib. p. 222) says of Voltaire: "His later educators, the Jesuits, gave him the very instrument of skepticism, by teaching him dialectic—the art of proving anything, and therefore at last the habit of believing nothing."

*A.* *Dist.* syllogisms in which the premises were certain and the form correct, *no*; other syllogisms, *transmit*.

### SCHOL. 1. PROBABLE ARGUMENTS

The probable argument is one, the premises of which are only probable, not certain. Either the major may be probable or the minor or both; in any case, the conclusion does not exceed probability.

In a special sense, however, a probable argument is one in

<sup>1</sup>Cf. *Bittle* p. 334-342.

which the *major*, though a universal proposition, is only probable. Such principles are particularly two:

a. The principle of the *argument from analogy*: "What is true of one, is true of others similar to it." Or also: "A thing which is similar to another in one respect is similar to it also in other respects." Or again: "Similar causes produce similar effects" etc. Thus one may argue: The planet Mars resembles the earth in size, rotation, revolution, the presence of an atmosphere. Therefore Mars is inhabited like the earth. If, however, the missing *major* is supplied, it will be seen to be at most probable.

b. The principle of the *argument from a hypothesis*: "What conveniently explains all phenomena of a given class, is their true cause" (see p. 89-90).

## SCHOL. 2. SYMBOLIC LOGIC

Symbolic logic (also called mathematical logic or logicistic) is a system of symbols, representing classes, propositions etc., so that one can calculate just as in mathematics. It proceeds by rigorous deduction from postulates and definitions.

Symbolic logic has not made traditional logic superfluous, since it can hardly be understood without the latter. Nor have its adherents been able to agree on the first axioms or on the symbols to be used. Its application to philosophy is negligible.<sup>1</sup>

### Proof of Second Part

*Observe.* Not in the laws themselves, but in our knowledge of them, we must distinguish three degrees: (a) "*Statistical laws*" or "generalizations", which merely rest on oft-repeated observations of the same kind of facts. We see neither their essential fixity nor their a priori necessity. These are probable, and the more probable, the more cases have been observed. (b) "*Laws of fact*," where the facts observed are so many and so varied that they cannot be due to accidents, external or internal (e.g. that metazoa reproduce by means

<sup>1</sup>Cf. B. Coffey, in *The Modern Schoolman* 1948 p. 198-202; Bochen-ski, in *Dominican Studies* 1948 p. 35-57.

of eggs). We see their constancy, but not their a priori necessity. (c) "*Rational laws*," where we also see the a priori necessity. Thus animals which feed on undigested food, have a cavity (stomach) where the food can be subjected to gastric juices before entering the bloodstream.

Since we speak about certitude, we take only the last two classes.

a. (Rational laws) An attribute which necessarily flows from the essence or a property of a thing, is itself a *property* of that thing.

Now attribute A (e.g. having a stomach) necessarily flows from the essence or a property of B (feeding on undigested food).

Therefore attribute A is a property of B.

b. (Laws of fact) An attribute which is always present in an object, no matter how external circumstances and internal accidents vary, (a) pertains to the *essence* (nature) of that same object, and consequently (b) *all* objects having that same essence must also have this attribute.

Now attribute A is always present in B, no matter how external circumstances and internal accidents may vary.

Therefore attribute A pertains to the essence of B, and all objects having the same essence as B, *must* have attribute A.

*Proof of major:* The major is an analytic proposition and may be shown thus: (a) There must be a *sufficient reason* why a certain attribute is always present in an object. Now, apart from external circumstances and internal accidents, there can be no other reason than the *essence* of the object. (b) The essences of things are *unchangeable*. Therefore also the attributes which flow from them. Therefore all objects having the same essence, *must* have the same attributes (properties).<sup>1</sup>

*Proof of minor:* The minor must be proved, in each par-

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<sup>1</sup>While Aristotle and the Scholastics in general granted certitude only in case of complete induction, Duns Scotus clearly proposed this line of argument from incomplete induction.

ticular case, by means of *observations* and *experiments*. How many of these must be made, or how much external circumstances and internal accidents must be varied before the minor can be called certain, cannot be determined *a priori*; a good deal depends on the genius of the experimenter.

*Cor. 1.* Therefore it is possible to establish *synthetic* principles (laws and definitions of natural objects).

Concerning these principles two remarks are in order:

a. Modern positivists deny the *objective validity* of physical laws. D. S. Robinson (Principles of Reasoning p. 294) quotes Karl Pearson as saying: "A scientific law is the résumé or brief expression of the relationships and sequences of certain groups of perceptions and conceptions, and exists only when formulated by man." In his recent book "The Philosophy of Science," Sir Arthur Eddington arrived at the same conclusion.

b. Like immediate principles or conclusions of deductive syllogisms, synthetic principles may also be *negative* (e.g. no horse is endowed with reason; spontaneous generation is impossible). But just as every syllogism must contain at least one affirmative premise, so a negative synthetic principle must rest on positive facts.

*Cor. 2.* Therefore the *uniformity of nature*, to which English positivists reduce everything, must itself be reduced to the essences of things. Nature is uniform (a) because the essences of things always remain the same, and (b) because "*agere sequitur esse*." Hence if the concept of essence (substance, nature) is ignored or emasculated, uniformity becomes an enigma, an effect without a cause.

On the other hand, we admit with Scotus that the uniformity of nature also depends on God's free will. And this not only inasmuch as God was free to create this world, but also because He may intervene in the laws of nature, pre-



venting them from producing their natural effects or aiding them in producing effects naturally impossible (miracles).

*Obj. 1.* There is a rule of the syllogism which says: If either premise is particular, the conclusion, too, must be particular (see p. 79). Now the minor of the deductive syllogism to which induction is reduced, is *particular*. Therefore the conclusion cannot be universal.

*A. Grant major. Dist. minor:* is explicitly particular, *yes*; is not implicitly universal, *no*.

*Obj. 2.* Because a thing is so, we may not infer that it *must* be so (see p. 112). But induction does this.

*A. Dist. major:* we may not infer immediately, *yes*; mediately, *no*. We bring the facts observed under a principle, viz. what pertains to the *essence*, not only is so, but must be so. It is the very purpose of induction to prove that a certain attribute pertains to the essence of a thing.

*Obj. 3.* As a matter of history, most laws based on induction were afterwards proved to be no laws at all. Therefore induction is practically useless.

*A. Dist. antec.* based on perfect induction, *no*; on imperfect induction, *transmit*.

Within the last centuries, every branch of natural science has definitely established some laws. The laws of falling bodies in mechanics, of chemical changes and combinations, Faraday's laws of electricity, Henry's laws of gases still stand unchallenged. Kepler's laws of planetary motion and Newton's law of gravitation are still the basis of astronomy. The instinctive actions of animals today are governed by the same laws as in Aristotle's time. If we will, we can ourselves test the laws of learning, recalling etc. laid down by psychologists etc.

*Obj. 4.* The formulation of a *hypothesis*, an essential part of induction, vitiates the process of induction. For it places the conclusion before the premises and destroys the observer's impartiality.

*A.* We deny the first charge. The hypothesis is not a conclusion verified, but *to be* verified or rejected.—There is, of course, danger that a scientist may become enamored with his own hypothesis, but this danger can be averted by self-control and clear thinking.

*Obj. 5.* The conclusion of an inductive argument becomes the more probable, the more *numerous* are the instances observed. Therefore the only ground for generalization is repeated experience.

*A.* As a matter of fact, there comes a time when further experience adds nothing to the conviction of the scientist.

*Obj. 6.* Induction contains a *vicious circle*; for it supposes what it sets out to prove, viz. the existence of essences and natures.

*A.* No. Induction supposes that there are essences and natures. But it sets out to prove that such and such is the particular nature of this class of objects.

How, you ask, do we know that there are any essences *at all*? We answer: From the fact that things, though undergoing many changes, yet remain fundamentally the same. Also, if there were no essences, our universal concepts would have no objective validity.

## SCHOL. 1. MORAL LAWS

Let us carefully distinguish two meanings of this term. As used in ethics, a moral law is the dictate of sound reason telling us what we are allowed or obliged to do, what we may or must do; it also tells us what we may or must not do. If we obey this dictate, our actions are morally good; if we disobey, they are morally bad. But as used here (and in psychology), a moral law is a *human tendency* to follow a certain line of action or inaction. Thus there is in us the tendency to choose the more advantageous, the more pleasant, the easier course of action; we strive after truth and happiness etc. One and the same action may, of course, be considered under both aspects and judged accordingly. But at present we speak only of the second. Three things may be noted about moral laws in this sense:

a. Moral laws may be ascertained from daily experience, from statistics, from history.

b. Moral laws are not as rigid as physical laws. They denote human tendencies, but leave the will free, and therefore allow of exceptions (morally good or bad).

c. Hence though the law itself may be formally certain (if enunciated with the possibility of exceptions), the application to concrete cases will give at most practical certitude.

## SCHOL. 2. GENERALIZATIONS

Strictly universal propositions (metaphysical, physical, moral) differ from so-called generalizations. These merely rest on oft-repeated observations of the same kind of facts; e.g. like father, like son; a stitch in time saves nine; there are only three generations from shirtsleeve to shirtsleeve. They are *probable*, and the more probable, the more they are borne out by experience.

### Proof of Third Part

*Observe.* We all argue from cumulative evidence. To the man in the street it is the most convincing argument. But (a) the frequency of error to which its application leads in practical life, calls for rigid *control*; (b) the process itself must be *justified*.

There must be a reason why all independent signs point to the same fact (principle of sufficient reason).

Now there would be no reason for this, unless this fact were true. (This is to be proved, in each particular case, by eliminating all other reasons possible.)

Therefore this fact is true.

*Obj.* A mere collection of *probabilities* cannot beget formal certitude. Now convergence of probabilities is a mere collection of probabilities. Therefore it cannot beget formal certitude.

*A. Dist. major:* unless a new motive is added, *yes*; even when a new motive is added, *no*. The new motive is the principle of sufficient reason: Why do all these probabilities *converge*, i.e. point to one fact as their only explanation?

Schol. Newman postulated a special "illative sense" to see the underlying drift of the manifold evidence and to grasp its essential unity. This he conceived as a separate faculty or at least as a separate function of the reasoning faculty. Really, it is reason which sees that all indices point to only one thing as their explanation.

*Cor.* Therefore also the *ideas* which are the logical result of any of these three processes of reasoning, have objective validity; e.g. the idea of God. Such ideas are called *factitious*, in opposition to primitive ideas.

### Readings:

On deduction: *Coffey*, Log. I p. 401-412; II p. 243-8; *Lahr* I p. 530-2.—On probable arguments: *Coffey*, Log. II p. 153-161; *Joyce* p. 341-4.—On induction: *Mercier-Parker* I p. 395-7; *Siwek*, in *Gregorianum* 1936 p. 224-253.—On Mill's canons: *Coffey*, Log. II p. 172-201; *Cunningham* p. 140-2; *Honecker*, Logik p. 184; *Joyce* p. 320-336.—On scientific laws: *Coffey*, Log. II p. 205-9; *Joyce* p. 224-5.—On fallacies of induction: *Coffey*, Log. II p. 327-337.—On moral laws: *Coffey*, Log. II p. 249, 262; *Feder* p. 294-8; *Lahr* I p. 681; *Rother*, Cert. p. 15-19.

## V. HUMAN TESTIMONY

### THESIS 13

**Under certain conditions, human testimony concerning external facts which the witness himself has observed, begets formal certitude.**

#### 1. Testimony, Witness

*Testimony* is the statement of a witness.

The word '*witness*' has three meanings (cf. Standard Dict. s.v. testify). (a) In a wide sense, it signifies one who *manifests* something to another; this definition would also include gossipers. (b) In a strict sense, it means one who manifests to another something *as true* (e.g. on the witness stand). Such a witness *guarantees* the truth of his statement; he feels insulted if he is not believed; if he lies or even errs, he deserves censure. (c) In an even stricter sense, a witness is one who is *officially* or *authoritatively* constituted to act as witness. Thus Christ constituted the Apostles to be witnesses to His doctrine and miracles. An attorney is formally authorized to witness to a deed.

#### 2. Limitation of Thesis

a. We only speak of *human* testimony, that is, statements by which a man manifests something to another. We do not now speak of divine testimony.

b. We only speak of *immediate* testimony, that is, statements made by men who actually witnessed the events narrated (eye-witnesses, spectators). We do not speak of hearsay.

However, there is no essential difference between oral and written testimony, as long as we are sure *who* is the witness. Hence the thesis may easily be extended to statements made in letters etc.

c. In the thesis itself, we only speak of testimony which concerns *external* events, not testimony concerning internal facts or scientific conclusions. On these see Scholia.

### 3. Conditions of Certitude

These differ according to the *number* of witnesses:

a. If there is only *one* witness (or only *a few*), I must be sure of his knowledge and veracity. Negatively, I must be able to exclude error and lying from the witness.

b. Where there are *many* witnesses, we need not inquire into the knowledge and veracity of the single witnesses. But we must make sure (a) that they *agree* among themselves, that is, that they all testify to the same event, (b) that there is *no collusion* among them to deceive.

### Proof of Thesis

#### 1. Where There Is Only *One* Witness

Formal certitude is had from the testimony of a man who knows the truth, and tells what he knows.

Now sometimes we can be sure that a witness knows the truth and tells what he knows.

Therefore sometimes formal certitude is had from the testimony of one witness.

*Proof of major:* If the witness knows the truth, error on his part is excluded; his mind is conformable to reality. If he is truthful besides, lying is excluded; his speech is conformable to his mind and so to reality.

*Proof of minor:*

(a) We may suppose a witness in the *strict* sense;<sup>1</sup> we may also limit the minor to the *substantials* of the event, abstracting from minor details, causes, consequences etc. Now to be sure of the witness' knowledge, we need only be

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<sup>1</sup>The case becomes stronger, of course, when the witness is officially appointed as such, or when God works a miracle to corroborate his statement.

sure that he could *easily* have known what he narrates, and that it was of *great interest* for him to know it; for under those two conditions everybody acquires the information he can.

Now we can, in a particular case, be sure that both conditions are verified; e.g. if we know that the event was public, extraordinary, easily perceived; that the witness was actually present at it; that great gain or damage was apt to accrue to him or his from the event; that his whole future depended on it etc.

(b) We are assured of the witness' *truthfulness* if we know that he wished to tell the truth in this case, that a lie would profit him nothing ("nemo gratis mendax"), that it could easily be detected, that it would harm him or his friends, etc.

*Obj. 1.* We need not charge the witness with lying. He may *err* unconsciously; imagination or memory may play him a trick in re-counting facts, especially where these happened years before.

*A. Dist.* under the conditions laid down, that is, where the facts are of tremendous importance to the witness and with regard to their substance, *no*; otherwise, *transmit*.

*Obj. 2.* "Testis unus, testis nullus," as experts in law say.

*A. Dist.* as a rule, *yes*; never, *no*. As a rule, the testimony of one man begets at most *practical* certitude; for ordinarily we cannot exclude all possibility of error or lying on the part of the witness. But from the argument it is clear that this is not always so.

*Schol.* An intellectual assent given to the statement of a witness on account of his authority is generally called 'belief.' The *authority* proper to a witness consists in his *knowledge* and *veracity*. We can believe a man when we are convinced that he knows the truth and that he wants to tell it.

## 2. Where There Are *Many* Witnesses

There must be a *sufficient reason* why many witnesses, though not in collusion, yet agree in making a certain statement. Which reason can only be a common error or a common lie or the truth. No other reason can be alleged.

Now when many witnesses agree, though not in collusion, there cannot be a common error or a common lie.

Therefore the only sufficient reason for their statement is the truth of the event narrated.

*Proof of minor:* (a) It could not be a common error; if the witnesses erred, why do they all agree? (b) Nor could it be a common *lie*; for a common lie is impossible without collusion.

That there was no collusion among the witnesses, is often clear from the *personal touch* of their narrative. Where there is no collusion, each will narrate the event in his own way, order, words. There will then be divergence in minor details, but agreement on substantial.

*Obj.* A collection of *probabilities* cannot beget certitude. Now the joint testimony of many is merely a collection of probabilities.

*A. Dist. major:* unless a new motive is added, *yes*; even when a new motive is added, *no*. The new motive here is the *agreement* among *independent* witnesses; this fact, too, must have a sufficient reason.

## SCHOLIA

### 1. Testimony Concerning *Internal Facts*

Can we ever be sure of the testimony by which somebody manifests to us his own *internal* facts; e.g. if someone complains of a headache?

We answer: Yes, provided we can be sure (a) that the person is in the *normal* state, (b) that he can have no reason to *deceive* us in this matter.

The necessity of inserting the first proviso is evident from what was said about consciousness. Though consciousness correctly reports internal facts, yet we are apt to misinterpret them for one reason or another. Now such misinterpretation becomes habitual, as it were, in abnormal persons, so much so that they themselves may be totally unable to discern what is going on within them.

The second proviso can be tested by the same criteria as were applied above to the testimony of one witness.

## 2. *Doctrinal Testimony*

Historic testimony concerns particular facts; doctrinal or scientific testimony concerns both particular facts and general truths;<sup>1</sup> as when historians attest the existence of Homer, when scientists attest the existence of ether or evolution, when astronomers attest the laws of planetary motion, when Scholastics postulate an intellectus agens etc.

Doctrinal testimony differs essentially from historic. Historic testimony easily leads to formal certitude; doctrinal testimony may beget probability (opinion), but *per se* it does not beget formal certitude.

History tells us that scientists have put forward many conclusions (theories) which were later abandoned. At one time, all astronomers taught the Ptolemaic system, which is now seen to be erroneous; in the 18th century, all chemists taught that burning was due to a special substance called phlogiston present in the combustible body. Reason also tells us that all men no matter how learned, may err in their conclusions.

Hence with regard to scientific theories, two maxims must be kept in mind: (a) "Locus ab auctoritate est infirmissimus" (S. Thomas). That is to say, in scientific (and philosophical) matters an appeal to authority is the weakest of arguments. (b) "Tantum valet auctoritas, quantum valent argumenta." That is, on the same matters, the word of a man is no better than his arguments. The first is for the layman, the second for the student of that particular science.

Still, *per accidens*, scientific testimony may beget formal certitude, viz. (a) when the witnesses are many, (b) when the matter is easy, (c) when there is no reason to suspect prejudice etc.

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<sup>1</sup>To the latter category also belong proverbs, maxims, sayings etc., especially those *generalizations* which are borne out by more or less frequent experience.



### 3. *Divine Testimony*

When *God* speaks to us, He evidently deserves the fullest credence. For He possesses in the highest degree the two qualities which constitute the authority of a witness: knowledge and veracity. God knows all things and cannot possibly tell a lie.

This holds even if we do not fully *understand* God's revelation. Even in human affairs we accept a witness' word for facts of which we do not see how they could have happened; if we demanded to see the why of the facts of history before believing them, there would be little to believe. Much more so in the case of divine testimony. God's authority infinitely transcends that of any human witness.

#### Readings:

*Coffey*, Log. II, p. 250-2; Ep. II p. 264, 298-300, 216; *Coppens* p. 87-90; *Cunningham* p. 143-156; *Jouin* p. 57-60; *Mercier-Parker* I p. 399-401; *Shallo* p. 126-131.—On the value of court testimonies: *Fröbes* II p. 140-2; *Feder*, Lehrbuch der hist. Methode p. 247-260.—On divine testimony: *Glenn*, Crit. p. 241-4; *Rickaby* p. 391-6; *Shallo* p. 136-9; *Varvello* p. 81-5.

**From historical accounts we can at times reach formal certitude regarding events of the distant past.**

In thesis 13 we spoke of contemporary events. There are, however, events which happened *long ago*; e.g. the American Revolution, the Migration of Nations, the Punic Wars, the flight of Israel out of Egypt, and so on. Such are the events we speak of in this thesis. And the question is whether we can ever be *sure* of them, and if so, under what conditions?

1. *Historical accounts* are narratives in which events of long ago are set forth; e.g. Tacitus' History of Rome; Caesar's Gallic Wars; Pastor's History of the Popes; Bancroft's History of the U. S. The question is: Can we be sure that the facts narrated in such "histories" are true? Or when reading Caesar's Gallic Wars, what are we to think of the events narrated?

We do not speak of any particular history (ancient or modern), but consider the problem *in general*.—Nor do we speak of the *documents* or *monuments* on which histories are based. These are the raw material and therefore extremely important for those who write history. But writing history is a special science and art, and thus falls outside the scope of a general epistemology.—Nor do we speak of the causes and effects (logical and psychological) of the events narrated, or of the "moral laws" manifested by history. We speak of the events themselves, the so-called "*historical facts*."—Lastly we may transmit minor details and concentrate on the *substance* of major events.

## 2. Conditions

First of all, there is no essential difference between the attestation of contemporaneous events and of events long

past. Hence essentially the *same* conditions apply to our questions as were applied in thesis 13.

However, there is an accidental *difference* of some importance. When the testimony is oral (also over the telephone), we can, as a rule, easily assure ourselves (a) of the person of the witness and hence of his credibility (b) of his exact statement (c) of its true meaning. But things are not so easy when there is question of ancient history. Hence before inquiring into the knowledge and veracity of the writer, three other points must be determined:

a. We must make sure of the *author* of the book. Who wrote this history? Who made these statements? Thus before believing what we read in the Gallic Wars, we want to make sure that Caesar himself, the general who conducted the campaign, wrote the book, and not some other Roman. In other words, we must make sure that the book is *genuine*, really written by the one to whom it is attributed.<sup>1</sup>

b. Secondly, we must make sure of the *integrity* of the book, that is, that the book has not been tampered with, but is substantially the same as it left the hands of the author.

c. Thirdly, we must make sure of the *exact meaning*. This implies two things: (a) that the book in general is *meant to be* a historical account, and not merely a novel in the form of a history; (b) that the author really *meant to say* as we understand him.

Moreover, the three questions of genuinity, integrity and exact meaning may be raised with regard to the autograph or a copy of it or a translation.

d. After these preliminary questions have been answered satisfactorily, we have yet to investigate and establish the author's *knowledge* and *veracity*.

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<sup>1</sup>It is more difficult, though not always impossible, to establish the credibility of a historical account even where the author remains unknown. But here we need not consider that case.

**Adversaries** (cf. Feder, *Lehrb.* p. 36-38, 127)

1. From the fact that historians, even the best, often *contradict* one another, that *traditions* are frequently untrustworthy, that historical documents have been proved to be *forgeries*—some have drawn the conclusion that events of the past, especially of the distant past, can never be known for sure. In France the saying gained currency: “L’histoire n’est qu’une fable convenue.”

2. In the last century, the same conclusion was sometimes drawn from the fact that witnesses generally *distort* the events which they narrate.

The following story is told of Sir Walter Raleigh. Standing at his window one day he observed a small riot going on in the street below. Soon after he had again seated himself at his desk, an eye-witness rushed into the room and gave Sir Raleigh his version of the riot. The account differed widely from what he himself had observed. When the visitor had left, Sir Walter took the manuscript of the second volume of his universal history and threw it into the fire. If eye-witnesses cannot be trusted, who can?

3. Laplace, the famous French astronomer, basing his argument on the *calculus of probabilities*, thought that the trustworthiness of a tradition decreased as the distance from the original event increases.

4. Some claim that we can be sure of the *statement* of witnesses, but not of the facts to which they testify.

### Proof of Thesis

Historical accounts give us formal certitude regarding past events, if we are sure (a) of their genuinity, (b) of their integrity, (c) of their true meaning, (d) of their trustworthiness concerning the events narrated.

Now we can sometimes be sure of these four things.

Therefore historical accounts can sometimes give us formal certitude regarding past events.

*Proof of major:* This is the same as in the preceding

thesis, except that now the writer of the book or statement is our witness.

*Proof of minor:*

a. We can be sure of the genuinity of a book from *external* arguments, that is, if contemporary or nearly contemporary writers unhesitatingly and constantly ascribe the book to this author. Sometimes external arguments can be confirmed by *internal* arguments, viz. when it can be shown that the language, diction, style etc. agree with that of this author as known from other sources.—The best proof of genuinity is agreement of external and internal arguments.

b. We are, of course, sure of the integrity of a book if we have the *autograph*. But even where only *copies* or *translations* are at our disposal, we may be sure of it; e.g. if there are many of them, made soon after publication in different countries, and if yet they all agree substantially.

c. We can be sure of the meaning of a book. (a) That the book was meant as a true *history*, is evident if that is its obvious meaning, if the writer himself says so, if his contemporaries and all subsequent ages took it to be history. (b) The *exact meaning* of the single statements can be found from the usage of words, phrases, constructions etc. common at that time, in that region, with that author. This supposes, of course, that we are acquainted with the language of the original as well as with the historical background of the author and of the events narrated.

d. The trustworthiness of the author can be established in the same manner as in thesis 13. We can likewise distinguish two cases: (a) where an event is narrated by only *one* historian; (b) where *many* historians testify to the same event. Though certitude is not impossible in the first case, it is had more easily in the second.

*Objections*

1. "The trustworthiness of evidence decreases as its distance in time from the events narrated increases" (C. J. Wright, *Miracle in History* p. 55).

A. The assertion is, to some extent, justified as regards oral tradition; but why should a written document become less evident with time? Besides the contents of one document may be confirmed by others. And so it has happened that events of long ago are now better known and understood than formerly.

2. No historian presents facts as they actually occurred.

A. (a) We may transmit this objection, as we do not defend any particular history. (b) *Dist.* no historian narrates facts with all the circumstances of time and place, *transmit*; no historian can give us the substance of historical facts, *no*.

3. Histories do not give us facts, but only their authors' ideas, subjective impressions etc.

A. (a) *Transmit*, as above. (b) *Dist.* some histories, *transmit*; all, and for the reason that they cannot give us more, *no*. Histories often contain accounts of eye-witnesses, they have been checked and controlled by other accounts, by documents and monuments etc.

4. Every age writes its own histories. What is praised to the skies in one generation, is condemned in the next, and the scoundrel of one century becomes the hero of the next.

A. *Dist.* so that all facts once admitted are now denied, or vice versa, *no*; so that the judgment on facts and persons varies, *transmit*.

5. How do we know that the conditions for making the historian's testimony reliable are fulfilled? Only through the testimony of other historians. Therefore a vicious circle.

A. *Dist.* we rely proximately on other historians, *transmit*; ultimately, *no*. Ultimately historical certitude is based on experience and reason, as appears from the proof of the thesis.

*Schol. The Argument from Silence*

Suppose that an event (important or not) of a certain period is passed over in silence by an eminent contemporary historian of that period, or that the event is not mentioned in any historical document for a long time afterward: can we conclude that that event never happened? Thus Jean de Launoy, a professor of the Sorbonne, thought the argument conclusive if the event is nowhere mentioned for 200 years after it is supposed to have occurred.

But evidently this conclusion is an exaggeration. Silence on the part of contemporary historians or others is conclusive only if we can show *three* things: (a) that those writers

could not help knowing about the event if it had happened, (b) that they were bound to mention it, (c) that they had no motive for suppressing it.

Readings:

*Coffey*, Log. II p. 253-9; *Cunningham* p. 148-156; *Rickaby* p. 377-390; *Shallo* p. 132-3; *de Smedt*, in Cath. Enc. s. v. Criticism, historical.—On the argument from silence: *Feder* p. 282-5.

**The historical truth of physical miracles can sometimes be known for certain, not only by eye-witnesses, but also by others, even centuries afterward.**

We do not speak of any miracles in particular; but if miracles can occur at all, we claim that there is no special difficulty at least in ascertaining the facts in the case. That miracles can occur, is proved in cosmology.—Still, as concrete examples may be taken the miracles of Our Lord as narrated in the Gospels, or the miracles worked at Lourdes in France, or the miracles on the strength of which the Catholic Church canonizes a Saint.

1. A *physical miracle* is a sensible fact or event, which transcends the powers of nature and is due to divine intervention. The concept of physical miracle therefore contains three (and only three) elements: (a) an event which can be perceived by man's external senses, (b) which, however, cannot be produced by the laws of nature, (c) and which is due to divine intervention. Though other definitions are at times given, yet all Catholics substantially agree with this one, and those who argue against miracles, implicitly suppose it.

There are also intellectual and moral miracles. But in this thesis it seems preferable to restrict our consideration to physical miracles.

2. The *historical truth* of a physical miracle is the external fact or event as such.

In the present thesis, therefore, we abstract from the other two essential elements. For the first question must always be: What has actually happened? And are we positive that this has happened? Only after this question of fact has been settled satisfactorily, can we go on and inquire: (a) is the fact above nature or can it perhaps be explained by natural



laws? (b) is the fact due to God's intervention or perhaps to some other preternatural agency?

3. We do not claim that the historical truth of physical miracles can always and by everybody be known for certain. But we do claim that formal certitude is had under the following *conditions*: (a) for *eye-witnesses*, if their external senses functioned normally and they paid due attention: (b) for *others*, if they have trustworthy testimony of eye-witnesses who observed the event under the above conditions.

### Adversaries

1. Most modern rationalists argue that miracles are absolutely *impossible* and that therefore all accounts of miraculous events are to be distrusted and disregarded. Their protagonist is *David Hume*, who is thought to have disproved miracles for good, so much so that modern rationalists no longer argue the point. They consider the hypothesis of an event being a miracle impossible.<sup>1</sup>

2. Other rationalists (Spinoza, Rousseau, Voltaire, Renan), while not openly denying the possibility of miracles, demand wholly *unwarranted* conditions; e.g. that the miracle should have been foretold, or that it should be performed under laboratory conditions, or that it should be observed by a group of experts.

We may also mention a third class of rationalists, among them Renan, who deny that the conditions necessary for establishing the historical truth of miracles have ever been *fulfilled* in any particular case. Still, these are beyond our consideration, since we do not speak of any specific miracles.

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<sup>1</sup>As a matter of fact, Hume's argumentation against miracles is utterly confusing and self-contradictory; he constantly shifts his ground; he fails to define essential terms and even to stick to implied definitions. These faults have been pointed out again and again, by Catholics as well as non-Catholics. Among the latter we mention the admirable exposé of A. E. Taylor, *David Hume and the Miraculous* (Cambridge University Press 1927). Or read J. J. Baierl, *Theory of Revelation I* 2 p. 380-403.

### Proof of Thesis

1. A physical miracle is an event which, as far as perceptibility goes, does not differ from any other event that can be perceived by our external senses.

Now, under the conditions laid down, we can be sure of the historical truth of other events.

Therefore under the same conditions, we can be sure of the historical truth of physical miracles.

We may admit what C. J. Wright (*Miracle in History* p. 54) says: "Human testimony being universally admitted to be fallible, the more extraordinary the event narrated, the more exacting must be the historical proofs for its occurrence." Only we insist that such "more exacting" criticism is had spontaneously, and demand that it be not unfair nor made a new condition of reliability.

### 2. Two illustrations:

a. As regards *eye-witnesses*: I can tell whether a man is seeing or blind. I may actually know a man who lost his eye-sight, that is, who had been seeing and is now blind; nor do I, to be sure of this, need to know how he lost his eye-sight. Again, I may know a man who had been blind, but can now again see (perhaps owing to a clever operation). Why then should it be impossible to know for sure that a man had been blind (perhaps from his birth), but suddenly recovered his sight at the mere command of somebody else? Where is the difference between such an event and the others as far as merely the *external facts* are concerned? (Read chapter 9 of St. John's Gospel.)

b. As regards *posterity*: Posterity is even in better position with regard to narratives of miracles than of other historical facts. For, while some witnesses (immediate or mediate) may be over-credulous, others will be doubters, and will *examine* the narrative from every angle. This is particularly so when something of importance depends on the truth or untruth of the reported miracles.

*Objections**A. In general*

1. "Miracles do not happen" (Matthew Arnold, Renan).

*A. Gratis asseritur, gratis negatur.*

2. "We do not believe in miracles any more than we believe in ghosts, the devil, magic, astrology" (Renan).

*A. Deny parity.* Whatever one may think about ghosts etc., the possibility of miracles can be strictly proved.

3. Miracles are *impossible*—like a square circle or a filled vacuum. Now "*a non posse valet illatio ad non esse.*" Therefore we can be sure *a priori* that narratives of miracles are unreliable.

*A. Deny major.* No rationalist has ever shown that God cannot intervene in the normal workings of the laws of nature. But we leave the proof for the possibility of miracles to cosmology.<sup>1</sup>

4. At least miracles are "*antecedently incredible.*" Garstang (Foundations of Bible History p. 136) says: "People trained to scientific thought today are not disposed to believe in the possibility of any phenomenon which defies the laws of human experience."

*A.* Also this assertion is wholly gratuitous, not supported by any evidence. In fact, if one understands the true relation of the creatures and their Maker, he will deem it antecedently credible that God may at times intervene for a higher purpose.

5. Miracles are something *supernatural*. Now the supernatural can neither be observed nor proved.

*A. Dist. major:* the event itself is supernatural, *no*; the cause or the mode of the event, *yes* (or *transmit*). Physical miracles are events which occur on this earth, and as such can be observed like any other event.

*B. Belief on the testimony of others*

1. We can at most be *morally sure* that a miracle has taken place; but we are physically sure that no miracle has taken place; for a miracle is above the powers of nature. Now moral certitude must yield to physical certitude (see p. 259). Therefore we can never be certain that a miracle has taken place.

*A.* The syllogism contains several false assertions. (a) Deny the first part of the major. Eye-witnesses can easily be (and often are) *absolutely* certain of events, so much so that doubt is not only imprudent, but impossible to the normal mind. (b) While miracles do transcend the power of nature, they are not *absolutely* impossible; hence physical certitude, while it may often (even generally) become absolute, at times may become nil, viz. when there are sufficient grounds for asserting an exception.

2. Against a man who were to testify that a corpse was brought back to life, there would arise *a thousand* who could testify that a corpse never comes back to life. Now the testimony of one man must yield to that of a thousand. Therefore testimony in favor of a miracle is never to be credited.

*A.* This hoary difficulty rests on a confusion of ideas. What do or

<sup>1</sup>Cf. *Coffey*, Log. II p. 255.

can the thousand testify to? Either that they have seen no other corpse come back to life, or that such a process is absolutely impossible. Now the first testimony does not contradict that of the lonely witness to the resurrection, as is evident; the second is a gratuitous assumption.

There would be contradictory testimonies if someone were to claim having seen John, who died Sunday, alive all day Monday, and if a thousand testified to having seen him dead all day Monday.

3. We must believe what is *more credible*. Now it is more credible that witnesses err or lie than that a miracle has happened.

A. *Transmit major. Dist. minor*: if the witnesses are trustworthy, *no*; if not, *transmit*.

C. Special objection

Catholics are too credulous when it comes to miracles.

A. There are various answers to this charge. (a) We may retort by saying that rationalists are too incredulous; for they will not admit miracles no matter how strong the evidence for them is. (b) It may be freely admitted that some Catholics were and are too credulous in such matters; but it would be a sophism pure and simple to charge all Catholics with this fault or to put the blame for it on Catholic faith as such. (c) There are plenty of Catholic scholars (e.g. The Bollandists) who work diligently to ascertain which accounts of miracles (especially in the earlier ages of the Church) are trustworthy and which are not.

### Readings:

J. J. Baierl, *The Theory of Revelation* I 2 p. 355-403; J. Bruns-mann, *A Handbook of Fundamental Theology* II (Herder 1929) p. 103-113; *Cath. Encycl.* s. vv. Hagiography, History, Miracle; Felder, *Christ and the Critics* II p. 261-270; Joyce, *The Question of Miracles* ch. 3.

## Epilog

As a conclusion of this chapter on the sources of knowledge, we append two important remarks on *method*, one by Aristotle, the other by Cardinal Newman.

a. In his Nicomachean Ethics, Aristotle has this to say about the nature of the proofs to be adduced: "A well-educated man will expect exactness in every subject, according as the nature of it admits." Aristotle here warns us not to expect the same kind of argument for every subject.

S. Thomas repeats the same warning (In I Ethic. lect. 3), telling us not to expect the mathematician to become rhetorical, or the rhetorician to employ mathematical proofs.

Also, when looking for the solution of any problem, it is of supreme importance to choose the right method. A wrong method cannot but lead to a wrong solution. St. Thomas rightly observes (Summa theol. II II qu. 47 a. 9 ad 2): "*Certitudo non est similiter quaerenda in omnibus, sed in unaquaque materia secundum proprium modum*".

b. In his Grammar of Assent, Card. Newman rightly insists "that a special preparation of mind is required for each separate department of inquiry and discussion."

Seeing then that life is wider than any single department, there is danger in over-specializing, especially in the young. The mind is apt to become cramped. A mathematical mind cannot see a perfectly valid proof in history, the metaphysician fears to overstep the charmed circle of abstract thought, to the scientist deductive reasoning is mere quibbling or juggling with words, the practical man loathes any discussion that will not lead to dollars and cents, and so on.

It is the purpose of a *general education* to counteract and balance these tendencies of human nature.

## PART 3

# NATURE OF CERTITUDE

Unlike the medieval Scholastics, modern Scholastics are constrained to strengthen the very foundations of all knowledge. As is clear from the dissenting voices in the preceding theses, what may be called the *brute facts of knowledge* are, since the days of Descartes, being denied, either in general or in particular lines. To vindicate theses which no man should question in his sane moments, was the purpose of parts one and two. Without some such vindication, it were folly to philosophize on our knowledge.

Parts three and four, therefore, necessarily *suppose* the first two.

Having proved then in general that formal certitude is not an impossibility, and having pointed out the various God-given means to arrive at it, we now enter on the more *philosophical* discussion of its ultimate motive (whence its definition) and of its divisions. We want to understand fully what is meant by certitude in general and in its various kinds.

The student should, however, realize that parts 3 and 4 pertain to *scholastic* philosophy. They go beyond mere natural knowledge and take cognizance of Catholic faith. Thus as Catholic faith is also certain, Scholastics when defining certitude in general, look for a definition that embraces both natural and supernatural knowledge. Theoretically this could not be justified; but practical or pedagogical reasons, which are exposed elsewhere (p. 44, 297), are an ample warrant.

# Ultimate Motive of Formal Certitude

## THESIS 16

**Formal certitude is a firm assent (or dissent) based on motives which are in themselves infallible and are known to be infallible.**

### 1. Formal Certitude

a. *Certitude* may be defined as a firm assent (or dissent), i.e. one which is unwavering and without fear of error. This definition sets off certitude from doubt as well as from opinion; for *doubt* is absence of assent (or dissent), and *opinion* is hesitating assent (or dissent). We doubt or opine precisely because we fear lest we be wrong.

b. *Formal* certitude may be defined as a firm assent (or dissent) which is necessarily true and known to be true, i.e. one in which the mind is necessarily conformed to its object and knows its own conformity. This definition sets off formal certitude from every other. For, though every certitude is firm and unhesitating, yet neither purely subjective nor practical nor respective certitude can be called *necessarily* true.

Our present purpose is to find the (logical) cause of this necessity. What makes formal certitude to be necessarily true? Or in other words: (a) Why and how is this necessity of truth *present* in formal certitude? (b) Why and how is it *known* to be present?

In this thesis we shall point out what kind of cause formal certitude demands in *all* cases, in the next what it is in the *natural* order. The present thesis then is generic, the next specific.

## 2. Assent (or Dissent)

The term 'assent (or dissent)' primarily means a *judgment* (positive or negative).

But, as experience tells us, a judgment, especially when firm and oft-repeated, results in a corresponding state of the mind, which lasts until we forget all about it. Whatever the psychological explanation,<sup>1</sup> the fact is of daily occurrence. Hence the term 'assent (or dissent)' also stands for the *habitual state* resulting from a firm judgment.

## 3. Infallible Motive

a. Whenever we judge, we do so for some *motive* or reason. To judge without any motive at all, would not only be silly; it is simply impossible. This is so a fortiori of firm assents. My motives not only urge me to judge so, but also to judge firmly and unwaveringly.

b. An *infallible* motive is one which excludes the very possibility of error.

Note the word 'possibility.' A guide is not called infallible merely because there is no special reason for doubting his knowledge, or because it is highly improbable that he will lead us astray. We want to know *positively* that he *cannot* lead us astray; only then do we call him infallible. Similarly, we call a motive or reason for judging infallible only when it cannot lead us into error.

### Proof of Thesis

Formal certitude is a firm assent (or dissent) which is necessarily true and known to be true.

Now (a) no assent can be such unless the motive for it is in itself infallible and is known (by me) to be infallible; (b) the assent must be such (normally) if the motive is infallible and known to be infallible.

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<sup>1</sup>See Gruender p. 296; Lahr I p. 323-330; Sortais I p. 416-423; Fröbes, Psych. spec. I p. 241-250; II p. 222.



Therefore formal certitude is a firm assent (or dissent) based on motives which are in themselves infallible and are known to be infallible.

*Proof of minor:*

a. Only that judgment is necessarily true which *cannot* err. Now only an infallible motive excludes the very possibility of error; every other motive, no matter how alluring or appealing, leaves the door open for error. Therefore only an infallible motive is a sufficient guarantee for the (logical) truth of a judgment.

Moreover, our mind is not influenced by the motive as it is in itself, but as it is *known* (to me). Thus if one were to doubt the absolute validity of the rules of the syllogism, his conclusion, if correct, would indeed be necessarily true, but he would have little or no confidence in it. Similarly, when the Pope teaches *ex cathedra*, Catholics are formally certain, because they know the Pope to be infallible; a Protestant, who is not aware of the infallibility of the Pope, might possibly assent to the same doctrine on other grounds, but not because of the infallibility of the Pope.

b. If my motives for a judgment are infallible, then my mind is *necessarily* conformed to the object; and if I know moreover the motives to be infallible, then I *know* the conformity of my mind with the object.

*Cor. 1.* Therefore formal certitude is essentially made up of three elements: (a) a firm assent (or dissent) of the mind, (b) an infallible motive, (c) knowledge of its infallibility.

The first element, viz. firmness, is the logical effect of the other two; for if my motive for a proposition is really infallible, and if at the same time I realize that it is infallible, the assent (or dissent) following must be firm and unhesitating.

*Cor. 2.* Now we also see why the other kinds of certitude

fall short of the ideal: In none of them is the motive of assent infallible, nor is the possibility of error excluded.

Surely, there is nothing in prejudice or stubbornness (the usual reason for *purely subjective* certitude) that would exclude the very possibility of error; in fact, as we shall see, both are most prolific sources of error.—Nor is the possibility of error excluded by the mere fact that we cannot sift to the bottom all the details of our lives; inability of control does not spell impossibility of error. The possibility of error may be remote in *practical* certitude; it is there all the same.—The child rightly takes the mother's word for granted; but this does not exclude the possibility of the mother being wrong; consequently *respective* certitude is not necessarily true, though it is sufficient, under the circumstances, to quiet all doubt.

*Cor. 3.* Therefore formal certitude involves *reflection*, viz. (a) on the native power of our mind to attain to truth (aptitude of the mind, as the Scholastics call it), (b) on the force of the motive on account of which I assent or dissent. Vice versa, where this power of reflection is impeded, and as far as it is impeded (e.g. during sleep), formal certitude is impossible.

*Cor. 4.* Now we also see why the state of the mind may vary in the same individual or in different individuals, even with regard to the same proposition. For the factors on which formal certitude depends, may vary.

*Cor. 5.* Therefore certitude is not based on blind instinct, feeling, impulse, personal satisfaction (as modernists say, at least with regard to religion). Such *affections* cannot be the intellectual motives of assent. They may have their psychological importance, but logically they are unable to assure us of the objective truth. Else the scared child would be right in maintaining that there are hobgoblins in the dark cellar.

*Cor.* 6. Therefore, as far as epistemology is concerned, the concept of certitude is analogous, nay *extrinsically analogous*. Only formal certitude is true certitude, just as the Catholic Church is the only true Church of Christ. It is different, however, when the various kinds of certitude are examined from the standpoint of psychology or of practical life.

*Schol.* According to the modern system of philosophy which is called *Instrumentalism* (John Dewey), certitude is not an assent of the mind, but doing, action. But such a definition flies in the face of common usage, as is clear from consulting any of our larger dictionaries. And to change the accepted meanings of words, is nothing less than making speech impossible. Dewey's definition of certitude may also be rejected on the ground that it is a corollary of his philosophy, which is absurd.

Readings:

*Rother*, Cert. p. 23-35. 76-86; *Shallo* p. 96-7.

**In the natural order, objective evidence is the ultimate and universal motive of certitude.**

### 1. In the Natural Order

We only speak of that certitude for which our faculties are *naturally* sufficient, that is, without the special help of God's revelation and grace; as when we are convinced that the world exists, that  $2 \times 2 = 4$ , that the whole is bigger than any of its parts etc. There is also a supernatural certitude, as when we as Catholics believe that there are three Persons in God. For such certitude, the special gift of faith is required. Of this we do not speak.

### 2. Ultimate and Universal Motive

A *motive* is the reason for doing something. A motive of certitude, therefore, is the reason for giving a firm assent to a proposition. A motive of formal certitude, of which we here speak, is the reason for giving a firm assent to a proposition, but so that the proposition is necessarily true.

An *ultimate* motive is one beyond which no other can be assigned.—A *universal* motive is one which extends to all assents. Or it may be said to be that motive which is contained in all particular motives, and without which these would have no force.

### 3. Objective Evidence

Objective evidence may be defined (or rather described) as "*the object manifest to the mind.*" It may also be defined as the "necessity of the object manifest to the mind." But we shall explain the first definition now.

a. The word '*object*' here must be taken in the *widest* sense possible. It must not be restricted to material things, nor to things actually existing. It may mean anything which

the human intellect, without God's special aid, may know. It may be something material or spiritual, God or a creature, in heaven or on earth; it may be something actually existing or something merely possible; it may even be a figment of the mind (like the Tree of Porphyry). Briefly, it means anything *knowable*, anything that can be thrown into the form of a proposition, any relation between S and P or between the parts of a hypothetical proposition.

For 'object' we may also substitute '*truth*,' i.e. ontological truth; for everything is ontologically true in the sense that it can be known (at least to some extent), and evidence refers to the object precisely in as far as it can be known.

b. The word '*manifest*' does not mean 'obvious,' 'easily grasped,' 'understood at once.' That was the fundamental error of 18th century Illuminism. What is obvious, is of course, evident; but a proposition may be evident without being obvious; e.g. the Pythagorean theorem in geometry. It has often taken centuries of thought and labor to make some truths evident; e.g. that the earth is round. Candelabra had been swinging for thousands of years before their isochrony became manifest to Galileo.<sup>1</sup>

On the other hand, "truth is not always in a well," as Edgar Allen Poe rightly remarked. Some facts, some principles, some conclusions are so obvious that only a fool will deny them. They may be dubbed 'truisms' or 'common-places,' but that does not make them less obvious.

As used in our definition the word '*manifest*' means two things: (a) a certain quality of the object, which we may compare to the *illumination* which makes a material thing visible to the eye; (b) the act of the mind *seeing* or understanding the object (together with the consciousness of this act and its infallibility).<sup>2</sup>

<sup>1</sup>Cf. *Rickaby*, p. 227-9, 241-2.

<sup>2</sup>This act of seeing or understanding is often called '*subjective*

c. '*To the mind*' is added in the definition in order to exclude the senses. Strictly speaking, only the mind judges, and the term 'objective evidence' refers primarily to judgments, that is, either to the *copula*, which is the form of the categorical judgment, or to the *relation* asserted between the parts of a hypothetical judgment.

### Adversaries

1. Thomas Reid, a Scotch philosopher, thought that the ultimate reason for assenting firmly to the truths of common sense did not come from the object, but from some *blind instinct* within us urging us to assent to some propositions and to dissent from others. Nevertheless, Reid took common sense to be infallible, because it is the *voice of nature*, which is God's own handiwork.

Balmes, the Spanish philosopher, proposed a similar theory. He often speaks of an *intellectual instinct*, to which he ascribes our assent to the truths of common sense, and which he distinguishes from evidence and consciousness.

2. According to Kant, our assents and dissents are due, at least partially, to the *peculiar nature of our intellect*. We judge things to be so, not because they are so, but because of some 'subjective forms' with which we were born. All our judgments then are at least partial illusions, like the judgments due to bias or prejudice.

### Meaning of Thesis:

This thesis is purely *theoretical* and philosophical. It does not tell us how and when an object does become manifest to the mind. These questions were answered in the second part.

### Proof of Thesis

The copula 'is' here may mean 'is as a matter of fact' or 'is by right.' We shall prove the thesis for both meanings.

But the thesis cannot be *proved a priori*. That would mean *evidence.* An unfortunate term. Still, it is clear that objective evidence implies subjective evidence in this sense.

assigning an ulterior reason for the ultimate reason—clearly a contradiction. The thesis can only be proved by clearly explaining the terms. After which their mutual relation must be self-evident.

The thesis may be brought home by taking a proposition with the *highest* kind of evidence, viz. a mathematical equation. Why are we sure that  $2 \times 2 = 4$ ? Why do we all feel constrained to assent to it? Why cannot we dissent? Lastly, because the relation between S and P is so unmistakably manifest to us.

### 1. (*As a matter of fact*)

That is as a matter of fact the ultimate and universal motive of certitude, on which men fall back ultimately *whenever* questioned as to the motive of their firm assent.

Now men always fall back ultimately on objective evidence.

Therefore, objective evidence is the ultimate and universal motive of certitude.

The *major* is, concretely, the definition of ultimate and universal motive of certitude. Questioning a man brings out his grounds of assent. And if questioning is continued long enough, the ultimate grounds of assent will be brought to light.

*Proof of minor:* We are certain of what our consciousness or our senses tell us; we are certain of the truth of first principles; we are certain of truths that have been demonstrated to us; we are certain of facts which we did not witness ourselves, but which we hold on the strength of the testimony of others. (These heads contain all the various classes of certitude, as we saw).

Now, if asked why we are certain in any of these cases, our ultimate answer will invariably be: Because the thing is manifestly so and because I see it to be so. Which is precisely what we mean by objective evidence.

*Cor.* Therefore objective evidence is not something else or more than the *particular* motives of certitude. Rather, as 'man' is nothing beyond the individuals, so 'objective evidence' is embodied, made concrete in the particular motives.

2. (*By right*)

That is by right the ultimate and universal motive of certitude, (a) beyond which no other can or need be assigned, (b) without which no other motive would have any force.

Now (a) no other motive can or need be assigned beyond objective evidence, (b) no other motive would have any force without it.

Therefore objective evidence is by right the ultimate and universal motive of certitude.

*Proof of minor:* (a) Clearly, when I can honestly say: The thing is manifestly so (cannot be otherwise), I can go back no further; nor need I, since there can then be no fear of error. (b) The force of the particular motives consists precisely in this that each in its own sphere manifests to me that the thing is so.

*Cor.* Therefore, in the natural order, there is one supreme *rule* to guide us: We are only sure when a thing is evident to us. As long as a proposition is not evident, we ought not to give it an unhesitating assent.

*Schol. Divisions of evidence*

If asked how objects become manifest to the mind, one may simply enumerate the five sources of certitude. Scholastics, proceeding more on logical lines and by dichotomy, indicate a threefold division:

a. Evidence is *immediate* if the object becomes manifest to us without the aid of demonstration. It is *mediate* if the object becomes manifest only through demonstration.

Look carefully at the definition of *immediate* evidence. Something is called immediately evident because it requires no strict proof, not because it is manifest as soon as we think of it or our attention is called to it.

b. Evidence is called *intrinsic* (internal) if the thing becomes manifest to us by merely considering the terms of the



proposition (such as is had primarily in first principles). All other evidence is called *extrinsic*.—Sometimes, however, the evidence gained through the testimony of witnesses is called extrinsic, and all other evidence intrinsic. The terminology is not yet fixed.

A word about *extrinsic* evidence in the latter sense. To have this, two things must be intrinsically evident: the authority of the witness and the fact of his testifying. These two elements make up the so-called "evidence of credibility." On the strength of this evidence, I can prudently and firmly assent, even though I do not see why the thing was so or how it could be so. In other words, extrinsic evidence in the latter sense *rests on* intrinsic evidence, but does not give intrinsic evidence.

c. With the generality of modern Scholastics we shall also (after thesis 20) divide evidence into *perfect* (cogent) and *imperfect*.

#### *Objections*

1. We can have certitude even when the object is not manifest to us; e.g. in the *mysteries* of faith. Therefore objective evidence is not the universal motive of certitude.

A. *Dist. ant.* in the natural order, *no*; in the supernatural order, *transmit*.

2. Even children are sure that  $2 \times 2 = 4$ , although this is not manifest to them.

A. Either the child is not formally certain or it has what we call objective evidence. At first, indeed, children may merely repeat what the teacher told them (respective certitude); but gradually a light will dawn on them, and then the truth will become manifest to them.

3. We can become sure by believing *witnesses*. Now in such cases we have no objective evidence.

A. *Grant major. Dist. min.* extrinsic evidence, *no*; intrinsic evidence, *subdist.* of the truth witnessed, *yes*; of the credibility of the witness, *no*.

4. Students of geometry are sure of the Pythagorean theorem. But that theorem is by no means evident.

A. *Grant major. Dist. min.* immediately evident, *yes*; mediately evident, *no*. Or apply as a subdistinction the answer under 2.

5. Evidence requires something *beyond* itself, viz. attention and examination. Therefore evidence is not the ultimate motive.

A. *Dist.* examination and attention are *conditions* of assent, *yes*; motives, *no*.

6. The last reason why we assent firmly is because we see clearly that the thing is so and cannot be otherwise. But this is *subjective* evidence. Therefore subjective evidence is the ultimate motive.

A. Ultimately our mind must be conformed to reality (not to itself), and the light which manifests reality to the mind, must also be objective (not my passions or prejudices). Now this is primarily meant by objective evidence. That it *implies* the act of seeing, is not thereby denied.

## SCHOLIA

### 1. False Opinions

#### 1. *God's Authority*

A French bishop, Huet by name, despairing of man's natural powers for attaining truth, thought we could only be sure of a proposition if it was guaranteed to us by God's infallible authority. With our natural powers, he thought, we could never get more than probability. This theory is called "fideism."

Refutation: Before we can believe God's word, we must know for certain (a) that there is a God, (b) that He knows all things, (c) that He is all-truthful, (d) that He has spoken to us. If we were not sure of these things *before-hand* and hence through our unaided faculties, how could we ever be sure of what God revealed to us?—Besides, we are sure of many things of which God has revealed nothing; e.g. the multiplication table.

This does not deny, of course, that we are absolutely certain of whatever God has revealed to us, nor that we are sure of some things only because God has revealed them; e.g. that there are three Persons in God.

#### 2. *Agreement of Mankind*

a. According to Herbert of Cherbury, father of English deism, all truths are, from our birth, imprinted in our soul, and all thought merely consists in discovering them. Now the only way to discover them is to find out on what all men of all times have agreed; for those and only those truths are really *inborn*; all else is untruth.

b. A French priest, de Lamennais by name, is known for his 'traditionalism.' According to him, we can only be sure

of what all men agree upon—not precisely because all agree on it, but because this agreement is due to divine *revelation* vouchsafed to our first parents in paradise and handed on from generation to generation.

Refutation: Before we can take what all men agree upon, we must be sure (a) that we ourselves exist, (b) that other people exist and existed, (c) that they all agreed and still agree on something etc. Besides, once upon a time all men were agreed that the earth was flat; what then?

Of course, we need not deny that the consent of mankind, when it can be had, is a powerful extrinsic argument (doctrinal testimony). And when there is question of fundamental truths, it may even be a certain argument.

### 3. *Demonstration*

Some philosophers would call nothing certain unless it be demonstrated.

Refutation: If everything had to be demonstrated, there would be no certitude at all. To see the truth of this statement, we need only reflect on what demonstration implies. Demonstration is an argumentation in which the premises are certain and the form correct. Now if nothing is to be taken for granted except on demonstration, then each of the premises should be demonstrated by another argument, and the premises of this again by other arguments, and so on indefinitely (see p. 107).

Again, this does not deny that some things can and must be demonstrated; e.g. the existence of God, geometrical theorems etc.

### 4. *Experience*

According to modern positivism, nothing is really certain unless it can be verified by experience, or unless it can be subjected to the "scientific method."

Refutation: (a) As has been proved, there are five sources

of cognition; why limit one's field of vision to one, and then proclaim to the world that there is nothing beyond it?<sup>1</sup>

(b) The propositions of mathematics, at least as far as their universality and absolute certainty goes, do not depend on experience at all; they are analytic. (c) Induction, too, is without foundation unless based on analytic principles. (d) If experience were the only kind of evidence, we could not be sure about God's existence.<sup>2</sup>

Again, we admit that we can be sure of some things only through experience; e.g. that iron sinks in water.

## 2. Other Definitions of Objective Evidence

a. Some Scholastics, arguing chiefly against Kant, understood by objective evidence simply the *object* itself. They meant to insist that the object (as explained above) is the measure of the mind, that the object must determine the mind. They wished to counteract the theory that the influence of something subjective (blind instinct, Kant's categories) or of something outside the object (God, angel) makes me assent to a proposition as true.

If objective evidence be taken in this sense, our thesis is a mere corollary of the common sense notion of *logical truth*.

b. Others insisted on the word '*evidence*,' meaning that the object must be *known* before I can rationally assent.

Also in this sense, our thesis is implied in the notion of logical truth, though it brings out its difference from ontological truth.

c. Many Scholastics define objective evidence as the *necessity* of the object manifest to the mind.

But this definition may be taken in three different ways. Some mean by it that we have no objective evidence unless

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<sup>1</sup>This arbitrary limitation is really at the base of behaviorism. Because acts of consciousness cannot be measured by the yardstick, behaviorists discard them as rubbish.

<sup>2</sup>See *Ryan*, Introd. p. 354-6.

our *mind* is necessitated, so that it cannot help assenting (or dissenting). Others put the necessity in the *object* itself. Others again understand by it that there is a necessary *connection* between the motive of assent and the truth of the assertion. This last meaning seems preferable today.

We shall return to this question in theses 19 and 20.

### 3. Demonstration

On p. 108, demonstration was defined as "a correct argument from *certain* (and *evident*) premises." The reason for this definition is now clear. If the premises are purely *natural* truths, they must be evident. Not so, if the premises are taken from *revelation*.

### 4. Postulates

According to Aristotle and St. Thomas, a postulate (*petitio*) is a proposition which is not immediately evident, but which is provisionally accepted by both parties to a dispute, because it is supposed to be proved elsewhere. In modern philosophical language, a postulate is a proposition which, though neither immediately nor mediately evident, is yet accepted because it is indispensable for life.

Kant in particular speaks of "postulates of practical reason", that is, propositions which, if not accepted, render meaningless the moral law and life in accordance with it. Such postulates, according to him, are freedom of the will, immortality of the soul, the existence of God.

The Scholastics answer Kant by showing that his postulates are evident—either immediately or mediately. To do this, they first reject Kant's critique of pure reason (*supra* p. 200).

#### Readings:

*Coffey*, Ep. II p. 255-280, 290-307; *Coppens* p. 94-8; *Cunningham* p. 157-171; *Jouin* p. 64-71; *Lahr* I p. 709-718; *Mercier-Parker* I p. 362-373; *Rickaby* p. 188-231; *Shallo* p. 140-6.—On traditionalism: *Cath. Encycl.* s. vv. Traditionalism; Ubaghs; *Coppens* p. 90-3; *Jouin* p. 61-3.

## Divisions of Formal Certitude

Formal certitude is not always the same. We are certain that  $2 \times 2 = 4$ ; no one has ever explicitly denied it. We are certain that the world exists, that Rome exists. Yet if we look a little closer, we cannot fail to observe that there is some *difference* between these assents. The question now is how we had best divide certitude, and whether the divisions established are essential or accidental (see p. 102).

One division might be taken from the *five sources* of certitude. The evidence of the senses is not exactly the same as the evidence of the principle of identity. Already Aristotle remarked that we must not look for the same kind of evidence or certitude in all things (see p. 232). Thus it would be foolish to demand mathematical evidence for every proposition before we call it certain.

However, we shall base our divisions rather on the various elements comprised in the definition of formal certitude. Formal certitude then is essentially made up of *three* elements: (a) a firm assent (or dissent) of the mind, (b) an infallible motive, (c) knowledge of its infallibility (see p. 236). The question to be discussed now is whether these three elements are always the same, or whether perhaps there is a difference between various kinds of certitude. The following three theses give the answer.

**Direct certitude, too, is formal certitude, nor does it differ essentially from reflex certitude.**

The difference between direct and reflex certitude concerns the *third* element mentioned above, viz. the knowledge of the infallibility of the motive. In reflex certitude we know *explicitly* and distinctly that our motive is infallible; in direct certitude we only know it *implicitly* and indistinctly.

To illustrate:

The ordinary Catholic, when reading in the Catechism that all men are born with original sin, at once concludes that he, too, was born with original sin. And he adheres firmly to this conclusion, hardly being aware that it is a conclusion. Another Catholic, who has studied logic and epistemology, may argue thus: All men are born with original sin, as the Catechism teaches; now I am a man; therefore I, too, was born with original sin. Examining then this syllogism in *Darii*, and finding that it violates no canon and that its premises are certain, he, too, adheres firmly to the conclusion.

Hence two questions:

a. Can we say that only the latter is formally certain? Or has the former, too, the layman in philosophy, formal certitude? Our thesis claims that the certitude of both is *formal*.

b. But even if both direct and reflex certitude are formal, there is yet a difference in the knowledge of the infallibility of the motive. In the latter, this is explicit, in the former, only implicit. Is this difference sufficient to call it *essential*? We answer in the negative.

Although there are even some Scholastics (as Card. Mercier) who think that only reflex certitude can be called formal, yet our thesis is *certain*, as will appear from the arguments.

### **Proof of First Part**

1. If direct certitude were not formal, there would be no formal certitude at all.

Now the conclusion is absurd.

Therefore also the antecedent.

*Proof of major:* Reflex certitude means a *second* judgment, by which the evidence for an antecedent judgment is known and asserted explicitly. Now if a second explicit judgment were necessary to make the first certain, a third would be necessary to make the second certain—and so we should never come to an end; in other words, we should have no certitude at all.

2. That firm assent is formal certitude, which (a) rests on an infallible motive and (b) on the knowledge of its infallibility.

Now direct certitude, too, is such an assent.

Therefore direct certitude, too, is formal.

*Proof of minor:* (a) The motive of direct certitude, too, is the object manifested through one of the five sources. (b) If asked why we assent firmly, we indicate both the motive and its infallibility; now we should not do so unless we had been aware of both before assenting.

*Obj.* If this part of the thesis were true, even direct certitude would imply reflection, viz. on the motive.

*A. Dist.* implicit reflection, *yes*; explicit, *no* (see p. 153).

### **Proof of Second Part**

If there were an essential difference between direct and reflex certitude, the effects, too, would be essentially different.

Now the effect of both is essentially the same.

Therefore there is no essential difference.

*Proof of minor:* As a matter of fact, if there is any difference, the advantage lies with direct certitude. No layman in philosophy (e.g. bricklayers, farmers) ever doubted about the existence of this material world; but many philosophers did, misled while examining explicitly the arguments or motives for this conviction.



*Cor.* Therefore the division of certitude into direct and reflex is only *accidental*.

*Obj.* If this were so, philosophy would be a luxury, not a necessity.

*A. Dist.* for the greater part of mankind, *yes*; for all, *no*. We do not deny that explicit reflection often helps us in the acquisition of certitude, nor that it is necessary where the matter is complicated (e.g. in scientific and philosophical discussions). We merely deny that without it certitude cannot be formal.<sup>1</sup>

## SCHOLIA

### 1. Natural Logic

This thesis gives us the clue as to the *origin* of logic. By nature we are all endowed with certain rules, according to which we must reason and do reason in obvious matters. This native ability is called '*natural*' logic. '*Scientific*' logic is merely an accurate formulation and a further development of this ability (see p. 69).

But from the thesis it also follows that there is *no essential difference* between natural and scientific logic.

### 2. The Beginning of Philosophy

In the Introduction (*supra* p. 39-44) we already touched on this modern problem. We can now justify the position there taken.

a. Some (Descartes, Locke, Kant) advocated *doubt* as the only logical attitude for the beginner in philosophy. Unless one doubts and calls in question every proposition ever held as true, how, they ask, does he know whether his assents and dissents are justified?

But such an attitude is suicidal. It is that of the universal skeptic, and as we saw, there is no hope for him.<sup>2</sup>

Leibniz thus characterized Descartes' method: "Ille dupliciter peccavit, nimium dubitando et nimium facile a dubi-

<sup>1</sup>*Dávila* p. 46-8.

<sup>2</sup>*Cf. Cath. Enc.* s.v. Certitude, Epistemology; *Lahr* II p. 340-1; *Mahony*, *Cart.* ch. 4; *Rickaby* p. 148-163; *Varvello* p. 38-41.

tatione recedendo." Descartes went too far in his doubt and he was illogical in getting rid of it.

b. Others (among them some Scholastics) advocated merely *methodical* doubt as a starting point: the tyro in philosophy is not to doubt really, but to proceed *as if* he doubted everything.

If understood rightly, such an attitude may be tolerated; but there is grave danger of falling back into the first opinion. Card. Mercier and some of his disciples (e.g. Sentroul, Jeanni re), the strongest advocates of this method, are not careful enough to keep it distinct from real doubt. Or else their procedure is mere comedy.<sup>1</sup>

The case is not much different if, prior to philosophical reflection, our cognitions are merely rated as "spontaneous convictions" or as "hypothetically true". For, we ask, who or what assures us that philosophical reflection is more than that?

c. Many modern Scholastics (e.g. Tongiorgi, Pesch, Frick, Bittle) insist that three so-called "*primitive truths*" must be accepted from the start: the principle of contradiction, one's own existence, the native ability of the mind to attain truth (aptitude of the mind).

This theory may be defended. But the three primitive truths either can be justified scientifically or they cannot. If they can be justified, why not do so? If not, they are accepted blindly (which is not a good starting-point for philosophy), or we doubt them (which would make doubt universal).<sup>2</sup>

d. All things considered, the most logical attitude to be adopted in the beginning of philosophy is neither doubt nor dogmatism. But the philosopher intends to *examine* all

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<sup>1</sup>Cf. *Tonqu dec* p. 436-449; *Modern Schoolman*, Jan. 1933, p. 32-4; *Miltner*, in the *New Schol.* 1931 p. 262-5.

<sup>2</sup>Cf. *D vila* p. 32; *Trudel*, in *Revue de l'Universit  d'Ottawa* 1948 p. 217<sup>x</sup>-234<sup>x</sup>.

truths (of the natural order), focusing his attention on the *motives* for them.<sup>1</sup> In accordance with the present thesis, this means admitting from the start whatever is evident, or at least whatever is immediately and perfectly evident, but elevating direct certitude to reflex.

And if it should happen that philosophers do not agree in finding or explaining these motives, no one need abandon the truths themselves. Direct certitude does not depend on such an examination.

Philosophy then is not a progress from nothing to something, but from something to something better. Nor is such a progress a vicious circle. For the philosopher does not suppose what is to be proved. He merely considers *explicitly* the evidence for what he has rightly supposed all along. It is a circle, but a *legitimate* one.

### 3. Answering Objections

Because the layman has not examined and analyzed the various sources and motives of certitude, neither can he solve many *objections* brought against the truths of common sense. But since direct certitude, too, is formal, he may simply *disregard* them. In his case, ignorance is bliss. Thus why should all men worry about the objections which Kant advanced against many of these truths? The layman, if asked how he reconciles his conviction with these objections, has the right to answer: *I do not know*. Nor need he, on that account, become less firm in his assent.<sup>2</sup>

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<sup>1</sup>This is evidently St. Thomas' idea when he speaks of "universalis dubitatio de veritate" (In 3 Met. lectio 1). Cf. *Dávila* p. 47.

<sup>2</sup>A like distinction must be made with regard to supernatural faith. Both the ordinary Catholic and the professor of theology must, prior to divine faith, be sure of the motives of credibility or preambles of faith. But these motives are known to the former only indistinctly, whereas the latter has gone over them minutely and weighed their precise degree of evidence. Cf. *Chr. Pesch*, Prael. dog. VIII n. 297-307.

Hence it is that the Catholic Church wisely *forbids* the reading of certain books. Most Catholics could not answer the objections brought in them against their religion, and might, on that account, become wavering in their faith. To obviate this danger, the Catholic Church issues the Index of forbidden books.

### Readings :

*Cath. Encycl.*, s. v. Certitude; *Coffey*, Epist. ch. 4, 23; *Hettinger*, Natural Religion, Introd.; *Rickaby* p. 108-133.

**Metaphysical certitude alone is absolute; still, also physical and moral certitude are formal certitude, though essentially inferior.**

This division concerns the *second* element of the definition of certitude, viz. the infallibility of the motive. Does this infallibility admit degrees or must it always be absolute, so that, as soon as an exception is possible at all, there can be no question of formal certitude?

We claim the former.

Explanation of Terms:

*Metaphysical* or absolute certitude is a firm assent based on an absolutely infallible motive; as when we hold the truths of mathematics.—*Physical* certitude is a firm assent based on a motive which is physically infallible, though God, by His miraculous intervention, may make an exception; as when I judge that a stone unsupported in the air will fall to the ground.—*Moral* certitude is a firm assent based on a motive which is morally infallible, though an exception is possible through the utter perversity of man; as when I judge that a mother loves her child.

While these definitions are generally accepted, there is not the same unanimity as to what precisely is the *motive* meant in the definitions.

The ultimate motive of natural certitude is objective evidence, the object manifest to the mind. Now some would place the difference between these three kinds of certitude wholly in the object, that is, in the relation between S and P. They would divide 'certainty' rather than 'certitude.' This may be done. But it seems preferable and more consonant with the purpose of modern epistemology to include in the motive also the *manifestation* of the object. By motive then

we do not mean the objective relation existing between S and P, but the *connection* between the reason for the assertion and the truth of the assertion. For instance, I may assert the same thing either (a) because I have seen it with my own eyes, or (b) because I have reasoned it out, or (c) because I have the testimony of reliable witnesses for it.

The second and the third part of the thesis are only *probable*. Some Scholastics (e.g. Palmieri) hold that formal certitude is either absolutely infallible or none at all. In other words, they admit no *degrees* of formal certitude.

### Proof of First Part

That certitude is absolute which excludes all possibility of error.

Now metaphysical certitude alone excludes all possibility of error.

Therefore metaphysical certitude alone is absolute.

*Proof of minor:* The minor is an exclusive proposition. Hence: (a) That metaphysical certitude excludes all possibility of error, is clear from its definition. (b) Physical and moral certitude do not exclude all possibility of error, as is also evident from their definitions.

### Proof of Second Part

Formal certitude is an assent based on an infallible motive.

Now such an assent is also had in physical and moral certitude.

Therefore also physical and moral certitude are formal certitude.

*Proof of minor:* (a) The motives for these two kinds of firm assent are physical and moral *laws*; now these laws, though not absolute, yet produce their effect *necessarily* and per se; exceptions are indeed possible, but only through God's extraordinary intervention or man's utter perversity. (b) Such motives *suffice* for formal certitude. First, they

are essentially superior to merely probable motives, which imply no necessity. Secondly, in practical life they are admitted to beget formal certitude; thus in a baseball game, everybody is sure that a fly ball will not remain hanging in the air; to call it merely probable, would be ridiculous. Under ordinary circumstances, Macy's manager opens his store in the morning, confident that there will be customers willing to buy and salesgirls to attend to them; for he knows that the former need his goods, and that the latter depend on their work for their livelihood.

*Obj. 1.* The motive of assent is either infallible or it is not; there is no third alternative. Now if it is infallible, the assent based on it is absolutely certain; if not, there is no certitude. Therefore either absolute certitude or none at all.

*A. Dist. major:* either absolutely or physically or morally infallible or not infallible, *yes*; either absolutely infallible or not infallible at all, *no*.

*Obj. 2.* A motive is infallible only if it cannot lead into error. Now a motive which is only physically or morally infallible, may lead one into error. Therefore such a motive is not infallible.

*A. Dist. major:* absolutely infallible, *yes*; physically or morally infallible, *subd.* if it cannot lead per se into error, *yes*; only if it can never lead into error, *no*.

*Obj. 3.* Formal certitude excludes the very *possibility* of the opposite. Now an assent based on a physical or moral motive does not exclude the possibility of the opposite. Therefore such an assent is not formal certitude.

*A. Dist. major:* metaphysical certitude, *yes*; physical or moral certitude, *subdist.* exclude the possibility of the opposite per se, *yes*; also per accidens, *no*.

*Obj. 4.* Formal certitude is incompatible with error. Now an assent based on a physical or a moral motive may be erroneous. Therefore such an assent is not formal certitude.

*A.* Apply the same distinction as to the preceding objection.

*Obj. 5.* The last example given in the proof of the minor shows that these two kinds of certitude do not differ essentially from *practical* certitude. But practical certitude is not formal.

*A. Deny major.* In the former the motive of assent is a physical or moral *law*; in the latter, there is no law to appeal to.

### Proof of Third Part

That assent is essentially inferior to metaphysical certitude, whose motive is essentially inferior.

Now the motive of physical and moral certitude is essentially inferior to that of metaphysical certitude.

Therefore physical and moral certitude are essentially inferior to metaphysical certitude.

*Proof of major:* The motive differentiates the assent; as the motive, so—logically and rationally—the assent. Therefore an essential difference in the motive will mean an essential difference in the assent. Now a difference in the infallibility of the motive constitutes an essential difference in the motive itself. And if the difference is one of degree, there will be essentially different degrees of the motive.

*Proof of minor:* The motive of physical and moral certitude is not absolutely infallible, but only per se.

*Cor.* Therefore there are (probably) three essentially different *degrees* of formal certitude: the highest is metaphysical certitude; physical certitude is essentially lower; moral certitude is still lower.

Hence 'formal certitude' is not a universal; for it is not predicated univocally of the three kinds. Rather it is an *analogous* term, and its principal analogue is metaphysical certitude.

*Schol.* Reflection may turn physical or moral certitude into *metaphysical*, viz. if they can be brought under an analytic principle. Thus our certitude of the existence of an outer world is proximately physical; but we can and do reflect that there would be absolutely no *sufficient reason* for thousands and millions of our daily experiences unless this outer world existed; hence all of us, except perhaps some idealists, are absolutely sure that it really exists. The same kind of reflection may be applied to innumerable cases of human testimony, which proximately yields only moral certitude; e.g. that Rome exists.

Readings:

*Cath. Encycl.*, s. v. Certitude; *Coffey*, Log. II p. 214-223; *Cunningham* p. 21-31; *Rickaby* p. 50-107; *Rother*, Cert. p. 36-76.



# **Formal certitude may be mathematical or non-mathematical, necessary or free.**

These two divisions of formal certitude (especially the second) concern the *first* element of its definition. Is our assent always such that we are physically forced to admit the truth of a proposition even against our will, or does our will sometimes aid the intellect in its *firmness*?

## Explanation of Terms:

1. *Mathematical* certitude is that certitude which is had in the axioms, definitions, easier theorems of abstract mathematics (arithmetic, algebra, geometry etc.).—*Non-mathematical* certitude is certitude had outside abstract mathematics.

2. *Necessary* certitude is a firm assent based on a motive which makes all doubt impossible. It is called 'necessary,' because the evidence is such as to compel the intellect.—*Free* certitude is a firm assent based on a motive which excludes all *prudent*, but not all imprudent doubt.

Lest free certitude be misunderstood, three things ought to be explained:

a. An *imprudent doubt* (fear of error) is one which is possible, but devoid of solid foundation. Doubt which has a solid foundation, is called *prudent*.

b. The word '*free*' does not mean arbitrary or ill-founded. It does not mean that I see what I want to see, or that I see what is not there. In free certitude, the will does not add to the evidence; it does not give to the mind a heightened power of vision (as does the microscope to the eye). But by a sort of sympathetic action (as the psychologists say) the will (a) *focuses* the mind's eye on the evidence present, (b) *shuts out* factors (e.g. prejudices) which might

prevent or distract the mind from letting the evidence produce its full effect, but especially (c) *directly* influences the mind, commanding it to assent.

c. This certitude is called 'free,' not because the intellect is a free faculty, but because the assent depends directly on the influence of the will. (However, if one prefers the name 'moral certitude,' let him use that; no use quarreling about names.)

### Meaning of Thesis

The two divisions of formal certitude here proposed are not adequately distinct, but *overlap*. Hence the thesis must not be taken to mean: All mathematical certitude is necessary, and all non-mathematical free. Nor vice versa: All necessary certitude is mathematical, all free certitude non-mathematical.

The first division is defended as *certain*, the second as *most probable*.

### Adversaries

1. Already *Duns Scotus* manifested the tendency to apply the mathematical method to problems of philosophy and to mistrust non-mathematical evidence. The *nominalists* of the 14th century demanded mathematical evidence for every proposition and system. The *rationalists* of later centuries (Descartes, Spinoza, Leibniz, Wolff) took the procedure common in abstract mathematics as their model for philosophical argumentation. As mathematics lays down a few definitions and axioms and then deduces from these all theorems, so they would have the philosopher employ the same method, to the exclusion of all experience.<sup>1</sup>

"The rationalist of the Cartesian-Spinozistic tradition undertakes to furnish mathematically certain proofs for every proposition of his system. The modern rationalist, before whose mind mathematics continues to hover as an ideal of philosophy, demands them—at least from his opponent" (Zybura p. 523-4).

<sup>1</sup>Cf. *Klimke* I p. 232, 309, 317, 322, 356; *Überweg-Baumgartner* p. 578-9; *B. Jansen*, in *Gregorianum* 1939 p. 223-4.

Lastly, Coffey says regarding some modern *scientists*: "The terms 'science' and 'scientific' are often narrowly used nowadays as synonyms with the exact sciences of mathematics, abstract mechanics, and physics conceived and treated mechanically; and sometimes with the mischievous insinuation that in these departments alone is to be found certain knowledge" (Logic II p. 134).

2. Some few Scholastics (e.g. Frick) admit only necessary certitude to be formal.

### Proof of First Part

As hardly anyone denies that mathematics yields formal certitude, it will suffice to show that there is formal certitude outside the field of abstract mathematics. Now a firm assent, based on an infallible motive which is known to be infallible, can be had from all the *five sources* of knowledge, as was proved above.

*Obj.* At least one cannot have 'scientific' certitude except on the basis of exact mathematics.

*A. Dist.* if the term 'scientific' is defined thus, *yes*; otherwise, *no*. But to define 'science' and 'scientific' so that they are no longer applicable except to mathematics, is an unwarranted procedure.<sup>3</sup>

### Proof of Second Part

1. Necessary certitude is based on evidence which makes all doubt impossible; free certitude is based on evidence which does not make all imprudent doubt impossible.

Now sometimes the evidence for formal certitude is of the former kind, sometimes of the latter.

Therefore certitude is sometimes necessary, sometimes free.

*Proof of minor:* There are truths which all admit, even *against their will*; e.g. the multiplication table, the principle of contradiction, one's own existence, the existence of an outer world. There are other truths which are not admitted by those *ill-disposed* toward them (e.g. the existence of

<sup>3</sup>Cf. *J. St. Mill*, System of Logic, Bk. 4 ch. 6 n. 6.

miracles, the immortality of the human soul, the necessity of worshipping God). Now if the former depended on our good will, they would not be admitted universally; and if the latter did not depend on our good will, they would not be denied by so many.

2. *Physical* certitude is formal certitude. (This is admitted by those Scholastics against whom we argue).

Now physical certitude is free (in the sense explained).

Therefore formal certitude is sometimes free.

*Proof of minor:* If physical certitude were necessary, error would sometimes be necessary. But this cannot be, since our mind is made for the truth.

3. The thesis may be confirmed by many passages from *St. Thomas*. Thus according to him, the peculiar excellence of the first principles consists in this that they *cannot* be denied, that everyone must see their truth ("quorum contrarium nullus credere potest, etsi ore proferat"). See *St. Thomas*, In I Poster. Anal., lectio 5 and 19; In IV Metaph. lectio 6).

Therefore *St. Thomas* supposes (at least implicitly) that there are other truths which, though also certain, do not enjoy this peculiar excellence and compelling force. (Other pertinent passages are to be found in his *Summa Theologica* I qu. 82 a. 1 and 2; qu. 85 a. 6; I II qu. 17 a. 6; *De Veritate*, qu. 14 a. 1).<sup>1</sup>

4. That this division of certitude is not unusual outside of scholastic circles, is clear from the *Standard Dictionary*, s.v. *Demonstration*: "Proof in the strict sense is complete, *irresistible* evidence. . . . Moral certainty is a conviction resting on such evidence as puts a matter *beyond reasonable doubt*, while not so irresistible as demonstration."

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<sup>1</sup>Likewise, all modern Scholastics of note, as far as I have been able to verify, maintain the distinction. The only exception I know of is Father Frick.—Pope Pius XII insisted on the distinction in his allocution to the Rota of Oct. 1, 1942.

*Cor.* Therefore evidence itself, the universal motive of formal certitude, must not be conceived as indivisible. As daylight is overpowering at noon, but gradually becomes less and less until there is complete darkness, so evidence, in as far as the manifestation of the object is denoted, has an infinite number of *degrees*.

### Objections

1. All truths have been doubted or denied. Therefore there is no necessary certitude.

*A. Dist. ant.* really, *no*; as far as assertion goes, *transmit*.

First of all, the fact that someone says he doubts a proposition, is of itself no cogent proof that he *really* doubts it in his mind. He may lie or misunderstand his own assertion. Secondly, the universal skeptics, who claim to doubt all propositions, are led to their assertion not by immediate evidence, but by a process of *reasoning* which is easily shown to be faulty. Thirdly, even the universal skeptics do not really doubt *all* things; else their practical life would be altogether different from that of the rest of mankind.

To some extent, what is said here of skeptics, may be applied to idealists,<sup>1</sup> atheists, determinists etc., in fact to all who deny a truth of common sense.

2. If there were any necessary certitude, it would be had in *mathematics*. Now even mathematical propositions have been doubted: witness Einstein and the geometry of the 4-dimensional space.

*A.* The same as above.

3. Formal certitude excludes all *fear of error*. Now free certitude does not exclude all fear of error. Therefore free certitude is not formal.

*A. Dist. major:* all prudent fear, *yes*; even imprudent fear, *subd.* necessary certitude, *yes*; free certitude, *no*.

4. The ultimate motive of certitude is objective evidence. Now in free certitude, the ultimate motive would be the influence of the *will*.

*A. Dist. major:* the ultimate motive, *yes*; the only efficient cause, *subd.* where the evidence is perfect, *yes*; where the evidence is imperfect, *no*.

The influence of the will pertains to the efficient cause of the assent; it is not a motive, understanding by that the formal extrinsic cause ('object') or the manifestation of the object.<sup>2</sup>

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<sup>1</sup>A good account of the various (illogical) steps by which Christian Science arrived at *idealism*, may be read in E. F. Dakin's book "Mrs. Eddy" (p. 99, popular ed. of 1930).

<sup>2</sup>Observe: That the will can *directly* influence the intellect and bring about an assent, even a firm assent, cannot be denied. This influence is apparent in case of *opinion* and *error*. For neither in opinion nor in error does the object force the intellect to assent; yet the

5. Objective evidence is either sufficient for a firm assent or it is insufficient. If sufficient, the intellect is compelled to assent; if insufficient, the intellect cannot be said to be formally certain. Therefore there is no room for free certitude.

A. There is a third possibility. Objective evidence may be sufficient for a firm assent, yet not so overpowering as to preclude the possibility of all doubt. In that case, the assent is not extorted.

6. Free certitude makes truth dependent on the *will*: "Stet pro ratione voluntas."

A. No. In free certitude, the will does not make up for the lack of arguments, nor does it specify the contents of the judgment. The mind has sufficient evidence to assent firmly. But because the evidence is not overwhelming, the mind would not, of itself, assent. Something else is needed, something entirely *different* from objective evidence. That is the *efficient* causality of the will.

Of course, the will needs a motive of its own to exert this influence, and the mind has to present such a motive (some good) to the will.

*Schol. 1.* There is a *reflex judgment* involved in either certitude. In necessary certitude I judge: The object forces me to say that S is P, and in such a case I am right to say that S is P. In free certitude I judge: While the object does not force me, yet doubt is irrational and besides it is good for me to say that S is P; therefore I assent.

One point in this latter reflex judgment needs elucidation. Free certitude is based on the evident reflex judgment that doubt is irrational. To this is added the *willingness* or *obligation* of assenting. We are glad to assent, we may be obliged to assent by a higher authority, we may find it convenient or agreeable to assent. Any of these motives may be sufficient for the will to command assent. But where all of them are lacking, the assent will not be given; where they are revoked, the assent is revoked.

*Schol. 2.* Not only am I forced to hold certain propositions, there are also some which I *cannot* hold. To use Chesterton's examples: I cannot hold that horses grow feathers; I cannot disbelieve an elephant after I have seen one. Or to speak with Newman: "He who has seen a ghost,

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intellect does assent, even firmly. Cf. Dict. de Théol. Cath. s.v. Péch , col. 190.

cannot be as if he had never seen it." But abstracting from examples, the reason why we cannot hold some propositions is their *absurdity*; they contradict propositions which are perfectly evident to us.

*Schol. 3.* If one asks more specifically which truths possess that quality of coercing the mind, the answer would seem to be this: (a) many facts of immediate experience (internal and external); (b) some recognitions of memory proper; (c) first principles, such as the principle of contradiction, of identity, of causality; (d) mathematics, both in its principles and proximate conclusions; (e) the laws of deductive logic.

*Schol. 4.* Mention should be made of a division of certitude which Card. Newman introduced in his 'Grammar of Assent.' He distinguishes between *notional* and *real* assent, according as *vivid emotions* are absent from the assent or accompany it. Notional assent is without emotional background, lackadaisical, such as is generally given to the highly abstract principles of philosophy. Real assent is due to powerful emotions roused by personal experience, profound meditation or divine inspiration, stirring oratory etc.; it creates heroes and saints, also fanatics, for whom one principle is the mainspring of all their actions.

No one can deny the difference between these two kinds of assent or its practical import. But the nature of certitude is not thereby affected; the division is *accidental*, not essential.

#### Readings:

*Coffey*, Epist. I p. 49-59; *Lahr* I p. 682-692; *Pontifex* p. 41-93.

## Opinion and Probability

Certitude is not the only state of the mind. There are also ignorance, doubt, opinion (see p. 130). A few remarks about the last.

1. Opinion is *hesitating* assent or dissent. An opinion therefore differs essentially (a) from doubt, in which we suspend judgment, (b) from certitude, which is a firm, unhesitating assent or dissent.

The reason why we sometimes judge hesitatingly, is because on the one hand we have a good, solid motive, while on the other we realize that the evidence is not sufficient for a firm assent. The motive of such an assent is often called its 'probability,' and an opinion is also called a 'probable judgment.'

An opinion is called *prudent*, if it rests on a really solid motive, i.e. one which is sufficient for a serious-minded normal person. If the assent rests on a very feeble motive, it is called *imprudent*.

2. Probability is called *intrinsic* or *extrinsic*, according as the motive of assent is taken from the object itself or from external testimony. Thus it is intrinsically probable that a sturdy youth will live for a number of years; but for the layman the atomic theory is only extrinsically probable; he assents to it only on the testimony of scientists (see p. 219).

3. Probability admits *degrees*; for one motive may be better and more solid than another. Thus if ten scientists testify to the truth of the atomic theory, the layman has a stronger motive for assenting than if only one scientist proposed it.

Hence:

a. One opinion may be *more probable* than another, viz.



when better arguments are had for the one than for its opposite.

b. An opinion is said to be *highly probable*, if there are excellent reasons for it, hardly any against it.

c. An opinion is *most probable*, if there are excellent reasons for it, hardly any for contrary opinions on the same matter.

d. An opinion is *the only probable one*, if there are solid (though not infallible) reasons for it and if all other opinions concerning the same matter are certainly wrong or devoid of any solid foundation.

4. If either *premise* of a syllogism is merely probable, also the conclusion is merely probable (see p. 108, 208-9).

This rule is often thought to be contained in the second rule of the syllogism. Not so. The foundation for the rule is the principle of sufficient reason. A chain is no stronger than its weakest link.

5. Two *contradictory* propositions may be probable at the same time. This happens when the motives for them are disparate, so that they do not destroy each other.

6. When one of two contradictory propositions becomes *less probable*, it does not eo ipso become improbable or false. Nor does its opposite become certain. The motives may be disparate, and therefore not destroy each other.

# PART 4

## TRUTH AND ERROR

### CHAPTER 1

### Definitions

#### THESIS 21

**Truth is conformity of the mind to reality, error positive difformity.**

1. The purpose of this thesis is not to prove that there is (logical) truth and error. That is taken for granted. But our purpose is to find the best *definition* for both.

2. Truth and error are opposites; one is what the other is not. But both may be taken in the concrete or in the abstract. Truth may denote a judgment (proposition) which is true, or the relation which makes it true. Similarly, error may denote a judgment (proposition) which is erroneous, or the relation which makes it erroneous.

As is clear, our definitions refer to the *relation* which makes a judgment to be true or erroneous.

3. The term "*mind*" means the *objective* judgment, not the subjective operation. St. Thomas says (Contra gentiles I c. 59): "Truth pertains to what the intellect says, not to the operation by which the intellect says it."

4. "*Reality*" means being in the widest sense: that which exists, did exist, will exist, can exist—whether I judge of it or not. But there are also scientific judgments, such as "man is a species." Their truth does not imply that species can exist as such; they are true if based on reality.<sup>1</sup>

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<sup>1</sup>If reality is disregarded altogether (e.g. in Alice in Wonderland), we hardly speak of truth and error except perhaps in a very special sense.

5. The two main terms of the definitions "*conformity*" and "*difformity*" are hardly open to misconception; synonyms are "agreement" and "disagreement". They must, however, be understood so that reality is the pattern and measure by which conformity or difformity is to be judged.<sup>1</sup>

6. In the definition of error, the term "*difformity*" is modified by "*positive*". This for an obvious reason. No judgment of ours expresses the whole reality. Thus when I say this is a chair, I omit many things which are also in the existing object; e.g. its shape, color, weight, make. My judgment then cannot be said to be conformable to the whole object, and in so far might be said to be in difformity with reality. Yet no one would speak of error in such a case. Error does not consist in omitting certain aspects of reality, but in misrepresenting that aspect of which I judge.

### Proof of Thesis

The proof that these definitions are true, is simple, though fundamental. They are not scholastic fictions, but express *universal usage*. As St. Thomas put it: We call a proposition true when it affirms what is and denies what is not; and we err when we affirm what is not and deny what is. In truth then the (objective) judgment of the mind agrees with reality, in error it disagrees.

### *Refutation of other definitions*

1. Contemporary American logicians, who are practically unanimous in rejecting this definition of truth, style it the "copy theory," the "correspondence theory," the "one-one correspondence theory." Webster's Dict. (s.v. Truth) calls it "naïve realism." The one objection against it, which appears fatal to D. S. Robinson (Princ. of Reasoning p.

<sup>1</sup>The older scholastic term "*adaequatio*" is apt to suggest too high a degree of perfection in our cognitions; hence modern Scholastics prefer "*conformity*".

350-1), is that it supposes "transcendence" of cognition (see p. 150).

But such objections rest partly on a false philosophy, partly on a misrepresentation of what is meant by our definition.

2. Others (Ockam, Lotze) would understand by truth not strict conformity, but some sort of *likeness*.

But if this were so, all our judgments would be essentially false; for we use the copula 'to be,' which signifies identity, not mere likeness. When I say that Peter is a man, I mean something else than when I say that Peter is like John.

Akin to this definition is that which calls truth an *approximation* to reality. It is refuted by the same argument.

But let no one confound approximation as a definition of truth with the truth of an *approximate statement*. Also an approximate statement (e.g. Albany lies about 200 miles west of Boston) may be wholly true, and I may be formally certain of its truth. Modern scientists who insist on exact quantitative measurements, are apt to underrate the theoretical or practical value of such statements.

3. According to Kant, truth does not consist in conformity of mind with reality, but of the mind with its own idea.

But if this were so, there would be no error; to err, the mind would have to disagree with its own idea—clearly an impossibility. Nor would there be any difference between the judgments of a normal individual and the ravings of a maniac.

Card. Mercier, of course, rejects this definition. But in order to have a common platform for his dispute with Kant, he accepts it as a *beginning*. He wants then to arrive at the common notion of truth. This methodical procedure is not to be recommended.<sup>1</sup>

<sup>1</sup>*Coffey*, Epist. II p. 251-4; *Lahr* I p. 674-5; II p. 715; *John Rickaby* p. 196-200, 212-5; *Ryan* p. 222-6; *G. van Riet*, in *Revue phil. de Louvain* 1946 p. 7-35.

4. The so-called "*coherence theory*" defines truth as "the systematic coherence of a significant whole." "What we know is always some actual implicative system in reality itself. The truth or trueness of any belief is what it gets by virtue of its embodying that actual system" (D. S. Robinson, *Princ. of Reasoning* p. 358-9).

Of course, there can be no contradiction between truth and truth. But (a) a series of statements could very well be consistent with one another and yet be false; lunatics are very logical if you grant them their first premises; (b) the theory supposes that we know nothing unless we know everything.<sup>1</sup>

5. According to *pragmatists* (W. James), truth does not consist in conformity between the mind and the object judged about, but between the mind and human life. Truth is the "cash value" of an idea. True is what *succeeds*; false is what does not succeed. This is also called the *instrumental* theory of truth (John Dewey).

But apart from the fact that this definition implies relativism (see p. 141), pragmatists and instrumentalists evidently confound the ordinary (not invariable) effect of truth with truth itself.<sup>2</sup>

6. Owing to the fluctuations of modern scientific theories, truth is often said to be merely the best way of conceiving things as far as our *present knowledge* goes; this implies, of course, that tomorrow another conception may be found to be more serviceable and therefore true.

Also this definition opens the gates wide for relativism. As we now have "dated coffee," so we would have "dated truth": no good after the date stamped on either.

<sup>1</sup>*Coffey*, Log. I p. 20-3; *idem*, Epist. II p. 284-290; *Ryan* p. 222-6; *Rickaby* p. 196-200.

<sup>2</sup>*Ryan* p. 226-232.

## Possession of Truth

## THESIS 22

**Truth and error are had fully in the judgment alone.**

In logic, we distinguish *three* acts of the mind: simple apprehension, judgment and reasoning. Simple apprehension is that act of the mind by which we merely conceive the object, but affirm or deny nothing about it (see p. 51). Judgment is that act of the mind by which we affirm or deny something (see p. 60). Reasoning is the process of arriving at the unknown through what is already known (see p. 69).

The question for discussion now is this: In which of these three acts of the mind do we possess truth fully or commit ourselves fully to an error?<sup>1</sup>

The word '*fully*' calls for two further remarks:

a. To possess truth fully, is to possess it as much as our human nature allows and desires.

As we saw above, truth may be possessed by us in two ways: hesitatingly and unhesitatingly. Possessing truth unhesitatingly is called *certitude*. Human nature can attain to this degree and is not fully satisfied with anything less. Our question then may be proposed thus: To which acts of the mind can we ascribe *certitude*?

b. *Error*, too, may be hesitating and unhesitating. In complete error, our mind not only disagrees with reality, but we have even persuaded ourselves that our mind is in agree-

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<sup>1</sup>The question as to distinction and priority of these acts, which is discussed by Rickaby (p. 15-41), pertains to psychology. Our thesis does not depend on its solution.

ment with reality. The first degree is bad enough; but the second is far worse; for there is no more hope after that.

*Judgments* may be affirmative or negative, categorical or hypothetical, explicit or implicit; none of them is excluded. But we only speak of formal, not of virtual judgments.

### Proof of Thesis

1. Truth and error are fully had in those acts which everybody calls true or false in the strict sense of the word.

Now judgments alone are called true or false in the strict sense of the word.

Therefore truth and error are had fully in judgments alone.

*Proof of minor:* The minor is an exclusive proposition. Hence: (a) That judgments are called true or false, is too well known to need proof. (b) That neither simple apprehension (idea) nor reasoning are properly called true or false, is also evident. In simple apprehension we merely form a concept, without affirming or denying anything; reasoning as such, being merely a transition or process, may be called correct or faulty, but not true or false.

2. Truth and error are fully had in those acts in which the mind turns toward reality and says firmly that it is so (S is P, S is not P).

Now this happens only in judgments.

Therefore truth and error are fully had in judgments alone.

*Proof of minor:* (a) That this is done in judgments, is evident. (b) It is done neither in simple apprehension nor in reasoning.

### Objections

1. *God* possesses all truth fully. But *God* does not judge; for judging implies an imperfection.

*A.* We only speak of the acts of the human mind.

2. Truth is had fully wherever its *definition* is verified. Now the definition of truth is verified also in the idea.

*A. Dist. major:* 'fully' in the sense explained, *yes*; in any other sense, *no*.

3. Truth is had more fully in an act which *cannot* err, than in an act which can err. Now simple apprehensions cannot err, judgments can.

*A. Dist. major:* more 'fully' in the sense explained, *no*; in some other sense, *transmit*.

4. If the thesis were true, we would only know *relations*; for every judgment is a relation between S and P. But to say that we only know relations is relativism or agnosticism.

*A. Deny major.* It is one thing to know only relations, and it is another thing to express all our knowledge (real or supposed) by means of relations. We deny the former and admit the latter.

### *Schol.* False Notions

If our thesis stands, ideas (concepts, notions) should not be called wrong or false. Yet we often speak of wrong ideas, false notions or concepts. What is to be said of such terminology?

Let us distinguish. (a) An idea, properly speaking, is a *definition*. Now a definition is correct if made in accordance with the laws of definition (see page 105-6); if not, it is incorrect or wrong. But this is rarely meant when we speak of wrong ideas. (b) As a rule, we mean either false *judgments* or (very often) definitions *wrongly applied*. Thus the false doctrines of communism are called wrong ideas. Or when liberty is taken to mean license, or authority defined as tyranny etc., we speak of false notions. But it is clear that the terms 'idea,' 'notion' etc. are here used in a *wider* sense.

### Readings:

*Coffey*, Log. I p. 158-160; *Cunningham* p. 58-66, 76-80; *Rother*, Truth and Error p. 26-69, 90-103; *Shallo* p. 91-5.



## Criterion of Truth

### 1. Scholastic Dispute

a. Criterion of truth may be defined as that (sign, mark) by which I know that I possess the truth, and that I consequently have the right to assent (or dissent) unhesitatingly.

No doubt, subjectively speaking, there are as many criteria of truth as there are sources of cognition. But Scholastics consider the question more objectively. Is there anything in the *object* that tells me that I have the truth?

b. Scholastics are not agreed whether we ought to look for a *universal* criterion. Some (e.g. Remer, Géný, Jouin, de Maria) deny that there is any need for it; others insist that there is and must be one.

The quarrel would seem to be one of *definitions*.

Those who deny the need of a universal criterion of truth, point to the ordinary implication of the word 'criterion.' A criterion, they say, is needed only where there is danger of erring; now many propositions are so obvious that all danger of erring in their respect is excluded; therefore there is no need of a universal criterion of truth. As is clear from this argument, the *negative* aspect of criterion, viz. exclusion of the danger of error, is stressed.

Those who advocate a universal criterion of truth, rather stress its *positive* implication. Their argument may be formulated thus: Criterion of truth is that by which we know that we possess the truth; now *whenever* we are sure, there must be that by which we know this; therefore there must be a universal criterion of truth.

What then, in this view, is the universal criterion of truth? Nothing else than *objective evidence*, the object manifest to the mind. When the object is manifest to my mind, I also

know that I possess the truth; nothing else could give me this assurance.

This second view is more common today. But the whole controversy is of little importance.

## 2. False Opinions

a. Descartes proposed *clear and distinct ideas* as the ultimate and universal test of truth.

But this opinion, manifestly born of the love of the French for clearness, is false. I may have a very clear conception of the sun moving around the earth; but that does not make it true. Clearness is not synonymous with truth. Moreover, as Catholics, we cannot possibly hold this opinion. Historically it has led to complete separation of philosophy and theology, to 18th century illuminism, even to modern rationalism; systematically it denies that the mysteries of the Catholic religion are true; for mysteries are not clear and cannot be clear in this life.<sup>1</sup>

There is no denying, however, that clear and distinct ideas are a necessary *condition* of certitude. One of the most common sources of error are confused and obscure ideas, that is, ideas which have no sharp-edged definition in our mind or which have not been analyzed into their conceptual elements.

b. To John Dewey the only criterion of truth is the *satisfaction* a man gets out of acting.

But such a criterion would make all truth relative, and man would become the measure of things; for one man's satisfaction (e.g. playing the saxophone at midnight) might be and often is another's dissatisfaction.

c. Modernists invoke *experience* as the ultimate criterion of religious truth. Religious doctrines are true only in so far as they stir in us a new emotion, a lively sensation.

But religion is to be judged first of all by its contents, not

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<sup>1</sup>See *Mahony*, *Cart.* p. 79-84.

by the thrill it may cause in the adherent. Religion is the acknowledgment, theoretical and practical, of our *relation to the Creator*, and this acknowledgment is based on objective evidence.

d. *Inconceivability of the opposite* has been put forward as the ultimate criterion of truth by some English philosophers (e.g. Spencer).

This criterion is vague, unfounded, incorrect. The two terms 'inconceivability' and 'opposite' bear a variety of meanings; our ignorance is made the test of truth; those who propose the criterion mean by it that we cannot picture the opposite in our imagination, though there is question of the understanding.<sup>1</sup>

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<sup>1</sup>See *Coffey*, Ep. I p. 157-167; II p. 282; *Rickaby* p. 200-4; *Mercier-Parker* I p. 366-7.

## Degrees of Truth and Error

Can one judgment be called *more true* or *more false* than another?

a. Likeness between two things may be greater or less. Not so conformity, which constitutes truth. Conformity between the mind and object is either perfect or none at all. When I say that  $2 \times 2 = 4$ , this is either entirely true or not at all. Truth does *not* admit of degrees.

Sometimes indeed we speak of propositions which are *more or less true*. But then we mean that they have a true and a false meaning, that they therefore must be *distin- guished*. But once the meaning has been made definite, the proposition is either entirely true or entirely false.

Still, this does not deny that we may *learn more* about an object and thus add to our knowledge of it (e.g. this is a table, this is a round table, this table is wooden).—Nor does it deny that one truth (concretely) may be *more necessary* or *more fundamental* than another.<sup>1</sup>

b. Error admits of degrees.

First of all, one error may be wider of the mark than another; thus one who thinks that  $2 \times 2 = 10$ , is evidently farther from the truth than one who thinks that  $2 \times 2 = 5$ .—Moreover, error may cover a wider or less wide range.—Finally, error may only concern accidental truths or even necessary truths; in this second case, the error is evidently greater and more deplorable (e.g. if one does not know that there is a God).

Error may be explicit or implicit, obvious or hidden. Thus to say: Christ is not God, is an obvious error. But modernists say that Christ is God, and mean something altogether different from 'God.' Such hazy concepts lead to the fallacy of equivocation.

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<sup>1</sup>Cf. *Rother*, Truth and Error p. 70-84.

## Causes of Error<sup>1</sup>

Error is a false judgment. Error is an assent to what is not so, or a dissent from what is so; we say yes when we should say no—or vice versa.

The world is full of errors. Cicero says: “Cuiusvis est hominis errare”; and Catullus: “Suus cuique attributus est error.” We, too, err almost every day. Skeptics conclude from this that there is no formal certitude at all. But we saw (thesis 1) how foolish this conclusion is. We also showed that nature has given us various means of arriving at formal certitude, and that formal certitude is possible in all fields of human endeavor.

Still, error is a *fact*—to be deplored, yes, but not to be denied. How can we *avoid error*? This is the last practical question of epistemology.

The best way to answer this question will be to find the *causes* of error. “Principiis obsta,” as the Latin poet said. Once we know the sources of our errors, it will be easier to avoid them.

We shall divide the causes of error into proximate, remote, and ultimate.

However, before entering on this investigation, we must define error more accurately.

a. By ‘errors’ we mean those false judgments which people make in their *normal* state. In the abnormal state (insanity, sleep, infancy) man’s power of reflection is hampered in its free exercise; hence nobody accuses such people of *formal error*.

b. By ‘error’ we understand a *firm*, unhesitating assent (or dissent).

Therefore we do not speak of mere opinions, i.e. as long

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<sup>1</sup>Cf. *Thiel*, in *Divus Thomas* 1948 p. 181-204.

as a man's assent does not exceed the weight of his arguments. For, as long as a man is conscious of the insufficient evidence behind an opinion and does not assert more than the motives warrant, we do not speak of error in the proper sense.

In other words, by 'error' we mean *purely* subjective certitude.

## I. PROXIMATE CAUSES

1. Error, being a judgment, must be due, at least partly, to the *intellect*; for the judgment is an act of the intellect.

But the intellect alone does not give us a sufficient explanation of error. Why should the intellect firmly embrace error? The intellect is made for the truth; of itself it cannot love error.—Nor is the intellect indifferent toward truth and error, so that it would embrace either with equal love. If that were so, the intellect would no longer be a faculty.—Nor can objective evidence ever force the intellect to adhere firmly to a false proposition. Objective evidence is the object itself manifest. Now the object cannot manifest itself other than it is.

There is then another cause of error besides the intellect. As a matter of fact, if we reflect on the genesis of our errors, we realize that some non-intellectual influence has been active. This other cause, in every case, must be the *will*. There is no other factor which could directly influence the intellect and move it to assent without sufficient evidence of its own.

Hence we simply say that errors are *always* due to the direct influence of the will.

2. Still, the influence of the will must not be exaggerated: (a) Error is not *voluntary* in the sense that we want it as such. No one sets out to deceive himself. It would mean that though knowing a thing to be true, he yet believes

it to be false—a psychological impossibility. (b) Though error in itself is *sinful* (as St. Thomas teaches), yet there often are mitigating circumstances: we do not realize the danger of erring, we assert something false in the heat of an argument, we may be obliged to come to a quick decision etc.<sup>1</sup>

3. Now since both intellect *and* will coöperate in the making of mistakes, though in different manners, it is our purpose to investigate the peculiar conditions which are apt to lead to erroneous judgments. These conditions are the remote causes of error.

## II. REMOTE CAUSES

Error is impossible unless it has the *appearance* of being both true and good.

We cannot assent to a proposition that has not even the appearance of *truth*. For, on the one hand, truth, as Scholastics put it, is the formal object of the intellect; on the other, merely apparent truth is sufficient for the intellect to assent, as experience testifies.—Similarly, the formal object of the will is the good; the will cannot act unless its object be good, at least apparently *good*.

Now only the true is good and only the good is true. Error therefore is false and bad. But the question is: What gives to error the *appearance* of being true and good? This evidently is the remote cause of error.

### 1. APPARENT TRUTH

Generally speaking, apparent truth is due to *confusion of ideas*. This is clear from the very notion of judgment. The judgment is an act by which we affirm that S is or is not P. Now when the meanings of both S and P are clear, there is

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<sup>1</sup>See *Rickaby* p. 232-247; *Rother*, Truth and Error p. 104-117.

no possibility of saying 'is' when we should say 'is not'—or vice versa.

The further question then is: *Whence* are confused ideas? Though their origin is manifold, yet we may point out four of the principal sources:

### 1. Lack of Attention

All our (natural) cognitions come to us through one or more of the five sources spoken of in part two. Now in each source were pointed out the *conditions* necessary for formal certitude. But how many there are who ignore them and then assent firmly.

### 2. Inaccuracy

Card. Newman says: "Inaccuracy is the besetting sin of all, young and old, learned and unlearned. We don't know what we are talking about." This slovenly habit appears in the use of sentences, arguments, single words.

Do we examine each of our statements as to its exact meaning? Do we see in what sense it is true, in what sense it might be false? Do we sometimes turn the statement around, add a word here and a phrase there, and see what becomes of it? Or rather, do we not prefer wide and vague half-truths, arbitrary and ambiguous definitions?

More particularly, when *arguing* pro or con anything, do we make sure of the precise point to be proved, and of the soundness of the proof itself? Are we courageous enough to stand off a bit and coldly scrutinize our own arguments, ready to abandon them if they contain a flaw?

But by far the most fruitful source of error is our careless use of *words*, or rather the *vague notions* we have of the meaning of words. How many people will talk on education, religion, progress, child labor, economics, dogma, evolution—without having first made absolutely sure (a) of the vari-



ous meanings of these terms, or (b) of the exact meaning which they attach to them in the present discussion. Such discussion may be entertaining (like the antics of Mickey Mouse); it certainly will be barren of results.

In his *Apologia*, Card. Newman says of Dr. Whately, archbishop of Dublin and author of a treatise on logic: "He was the first who taught me to weigh my words, and to be cautious in my statements. He led me to that mode of limiting and clearing my sense in discussion and in controversy, and of distinguishing between cognate ideas, and of obviating mistakes by anticipation, which to my surprise has been since considered, even in quarters friendly to me, to savour of the polemics of Rome."

### 3. False Authority

What is the worth of authority with regard to facts as well as theories, we saw above (see p. 215-9). Authority clothed with the necessary *conditions* is true authority. False authority makes the same claims, although it lacks these conditions.

Let us enumerate a few cases where false authority is often assumed and easily granted.

a. According to Cicero, the Pythagoreans, when pressed for a reason of their philosophical assertions, simply replied: "Ipse dixit"; that is, Pythagoras, their teacher, said so. That was enough for them. Now the Pythagoreans claimed to be philosophers, and as such it was their duty to investigate for themselves. *Authority* is not the last criterion of truth or motive of certitude.

Nowadays many philosophers swear by Kant or Hegel; Jehovah's Witnesses swear by Rutherford, the Christian Scientists by Mrs. Eddy. It is the same *intellectual idolatry*.

b. What an undisputed sway *public opinion* holds over men's minds! How insignificant the number of those who, having settled principles and sufficient strength of character, can go their own way both in thought and practice! The

vast majority prefer to err with the mob than work out their own convictions. It is much easier.

Yet who, as a rule, creates public opinion? Are they experts in the matter? Did they first make sure of the truth and righteousness of their premises before drawing their conclusions? As a matter of fact, they generally are the leaders of political factions, men with an ax to grind, editors of newspapers whose one aim is the increase of circulation, men of wealth who care naught about principles as long as the dollars keep rolling in.<sup>1</sup>

One of the most prolific and baneful sources of error today is *mass propaganda*. By this means men can be so indoctrinated that they can no longer think for themselves or test the objective value of their indoctrination. It becomes impossible for them to detach themselves from rumor or report, and all critical judgment has disappeared. And when one remembers that today political movements, to be successful, must be mass movements, one realizes the terrible danger of mass propaganda.

It is incumbent on the educated man to retain his individuality, to keep his power of thought and judgment, to check, as far as in him lies, this modern tendency to mass appeal.

c. Today the *teacher's authority* is not rated very high. Yet, on account of the natural instinct to look up to the teacher as a guide, most pupils will unhesitatingly follow his lead. This is but right. But the teacher must not forget that his authority can never extend beyond the realm of truth. The mind of each pupil is made for truth, and he has the right to demand truth from his teacher, nothing but the truth.

Yet how many teachers there are in our universities, who,

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<sup>1</sup>See *Bricout*, in Dict. prat. etc. s.v. Opinion publique.

either openly or in a more underhand manner, instil into their pupils the poison of atheism or materialism, who ridicule the Catholic religion or all religion, who propose doubtful theories as gospel truths. Of course, it is to be expected that pupils trained by such unscrupulous teachers become themselves even more unscrupulous teachers. Lies do not improve in the telling.

d. What has here been said about false authority, applies equally or even with greater force to *books, magazines, newspapers* etc. Error does not become truth by being put in print.<sup>2</sup>

Yet, as Father Lord says: "Half our popular writers to-day don't care whether the thing they say is true or not, provided only it is brilliant. They would slay the truth for an epigram. They would kill a fact to make a phrase. They would rather be clever than right, amusing than honest, smart than true."

#### 4. Prejudices

A prejudice is a judgment accepted without due examination. It differs from an honest opinion. A prejudice is always more or less *irrational*, precisely because it is held without being first subjected to critical inspection. Opinions may be held rationally, viz. as long as we do not forget that the evidence for them is not sufficient to warrant a firm assent. Prejudices, on the contrary, are a case of *mental astigmatism*; they will not allow us to see things as they are.

To draw up a catalog of prejudices, is impossible. They vary from age to age, from nation to nation, almost from man to man. There are prejudices in sciences and philosophy, in politics and social life. Let us enumerate a few which are rather common today: Man is naturally good; all religions are equally good; it is sufficient for any man

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<sup>2</sup>See *The Month*, May 1932 p. 435-441.

to lead a good life; man is descended from apes or ape-like beasts; miracles are humbug etc.<sup>1</sup>

There are two things to be noted about prejudices:

a. We easily grant that *other people*, especially our enemies, are imbued with them and influenced by them in their judgments as well as actions. But it is exceedingly hard to admit that we, too, have our prejudices. Or if we admit it in general and in the abstract, nobody is allowed to touch any particular prejudice of ours; nothing fans our ire to such a red heat.

b. We try to *hide* our prejudices from others and from ourselves. We hate to see them discussed openly, to have them dragged out into daylight, so that everybody can have a look at them. Unconsciously or subconsciously we are ashamed of them as of a skeleton in our closet, because we half realize their irrational nature.

## 2. APPARENT GOOD

Error appears attractive to us either because we love that which the proposition enunciates, or because we love the act of assent itself.

### 1. Self-love

Self-love may be said to be at the root of the first class of errors. We are naturally attracted toward those propositions which *flatter* us or our friends; we reject a priori those which seem to belittle us or ours. We readily believe what *agrees* with our opinions and prejudices; we stoutly deny what goes counter to them. The mere fact that a proposition agrees with our customs and desires, gives it more evidence, as St. Thomas shrewdly remarked.

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<sup>1</sup>See T. S. Harding, *The Joy of Ignorance*, where a wealth of prejudices peculiar to us are humorously exposed. Or read the Lectures on Catholicism in England (King William Street lectures of 1851), where Card. Newman exposed the no-Popery prejudice of the British mind.

## 2. Intellectual Laziness

Certitude is the ideal state of the mind; it denotes rest and quiet—legitimate rest and quiet. The other states of the mind imply fear of error, hesitation, suspense. They are irksome, and hence our passions urge us to get rid of them somehow.

Now in many things, certitude is to be had only at the cost of serious effort and *untiring* labor. This, of course, is asking too much of the indolent student. He finds it easier to repeat what others, especially his professors, have said than to probe the matter for himself. In after life, such students will blindly follow the opinions voiced in their club or among their friends; they will be satisfied with political slogans; their guide to truth and ultimate criterion will be the newspaper. Let George do the thinking, is their motto.

Concerning *slogans*, the handy tools of intellectual laziness, C. Ganss, of Princeton University, has well said: "Man's indolent habits grant such phrases long life. You do not need to pursue a tantalizing line of thought farther after you have found one. Once such a phrase has clicked into the receptive mind, it is hard to dislodge it. An aphorism may be untrue, but it is always labor-saving. It economizes effort, for it is difficult with legitimate arguments to convince a persistent, hard-headed opponent, while it is easy, especially in the presence of a crowd, to knock him down with a slogan."

## 3. Vanity

Some people consider it a disgrace to own that in their case, too, knowledge makes a bloody entrance. They would rather scintillate than be solid. Hence *snap judgments* uttered to cover one's ignorance.

Intellectual vanity is especially apparent today in the craving for *encyclopedic knowledge*. It is easily acquired,

and one can make a show with it. It certainly is easier to acquire than philosophy, which is not satisfied unless it has struck the rock bottom of ultimate causes and ordered all knowledge into one world-embracing system.

### III. ULTIMATE CAUSES

The last reasons why we err, are two. There is first of all the imperfection of some things. As such Scholastics put down, e.g. matter, which contains a good deal of potentiality. But the chief reason of our errors is the imperfection of human nature: the dullness of our intellect and the preponderance of human passions.

Hence we may draw a general conclusion as to the *remedies* of error. We cannot change the imperfection of things; we cannot alter the nature of our intellect. But since every error is due to some inordinate passion, the final advice can only be:

**A pure love of truth.**



ONTOLOGY  
OR  
GENERAL METAPHYSICS





## INTRODUCTION

### 1. Definition

1. Metaphysics literally means "after physics" (*μετὰ τὰ φυσικά*). The name is not due to Aristotle, the founder of this branch of philosophy, but to Andronicus of Rhodes (first cent. A.D.). In arranging Aristotle's works for a new edition, he placed the 12 books which Aristotle had called "First Philosophy" or "Wisdom" *after* those which he had called "Physics", and so labeled them "Metaphysics". In the course of time, the name has come to signify the science which goes *beyond physics*, in the sense that physics deals with what is material, metaphysics with what is immaterial. And so metaphysics is defined as the *science of the immaterial*.

2. Now the word "immaterial" here has not the meaning, common in English, of unimportant, negligible, irrelevant. We shall have something to say about the importance of metaphysics in the course of this Introduction. But "immaterial" here is the opposite of "material" and means "*independent of matter*".

But what is matter? Its scholastic definition will be discussed in cosmology; for the present, matter may be described by some of its obvious properties—as that which is sensible (i.e. capable of being observed by our senses) or corporeal, has extension, weight, impenetrability etc. Whatever is matter, or depends intrinsically on matter (i.e. so that it cannot exist or act without matter), is *material*.

But the independence by which the "immaterial" is defined, may be twofold, and thence arises a fundamental distinction in scholastic philosophy:

a. *Positively immaterial* are *real objects* which neither are matter nor depend intrinsically on it. Such are spirits

(God, angels, human souls) and spiritual accidents (thought and volition). Pure spirits are beings which do not even extrinsically depend on matter; but our thoughts and volitions, though spiritual, depend extrinsically on the senses, which are material faculties.

b. *Negatively immaterial* are *abstract notions* which can be predicated of both material and (positively) immaterial objects; e.g. substance, cause. As they can be identified with real objects, they are themselves realities, but prescind from all conditions of materiality or immateriality.

Metaphysics deals with the *negatively immaterial*.

3. We distinguish between general and special metaphysics:

a. *General metaphysics* or *ontology* (from *ὄν* being) studies the negatively immaterial *in itself* and its widest relations to its logical inferiors. That is to say, ontology (a) examines the highest abstract *notions* which are common to things material as well as to things (positively) immaterial; (b) it lays down the immediate and analytical *principles* which flow from them; (c) it determines the primary *divisions* of things.

Now Scholastics distinguish between the material and the formal object of a science (supra p. 2-3, 48). In accordance with what has just been said, the *material* object of ontology are the highest abstract notions themselves. But since there can be nothing higher or outside of them, these must be studied in their own light. Which is another way of saying that the highest notions, principles and divisions are also the *formal* object of ontology, so that in ontology the material object coincides with the formal.<sup>1</sup>

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<sup>1</sup>Not all Scholastics agree on this identification. Some hold that the "positively immaterial" is the only material object of metaphysics. The dispute would seem to be more verbal than real, and in any case all Scholastics follow the same procedure.

b. *Special metaphysics* studies the various classes of real objects in the light of the highest notions, principles and divisions furnished by ontology. Here the material object evidently differs from the formal.

Special metaphysics comprises three treatises: *Cosmology* deals with the corporeal world, especially with non-living bodies and the universe; that is, it studies them in the light of general metaphysics; *psychology* deals with living beings, especially with man and the human soul; *theodicy* (natural theology) deals with God and His attributes. There is no angelology, because we are sure of the existence of angels only through revelation.

## 2. Division

General metaphysics or ontology, our subject-matter for the present, examines first of all "being", the highest and most fundamental of all abstract notions, together with its attributes of unity, truth and goodness. But closely related to it, as we shall see, are the categories and causes of "being". We thus have four principal parts:

- a. Being
- b. Attributes of being
- c. Categories of being
- d. Causes of being

## 3. Importance of Ontology

In a way, ontology is the *easiest* of all branches of philosophy. The reason is that the notions which it studies, are the simplest and commonest of all, and that the knowledge of the man-in-the-street, by and large, furnishes the student with a sufficient basis. Most of the examples used for illustration or proof will be found to belong to every-day experience. Over against this advantage, however, must be placed the well-known fact that the human mind finds it *difficult*

to dwell for any length of time in the rarefied atmosphere of abstract thought. This is because we are creatures of sense, to whom the concrete world of realities appeals more than bloodless abstractions, and because the sense images necessary even for metaphysical thought do not so univocally correspond to our concepts as they do in mathematics.

Still, whether thought easy or difficult, ontology is of the highest importance. (a) It is necessary for *philosophy*. Without it, our highest concepts, principles and divisions would remain vague and nebulous, and so our explanations of the universality of things through their highest causes would lack sharp outlines. (b) It is necessary for the *sciences*. Never more so than today. It is because scientists are ignorant of ontology that anarchy reigns today among the sciences; ontology should be their starting-point and goal. (c) Ontology is a necessary part of a *liberal education*. If the human mind looks for causes and the ultimate causes of things, it can only be satisfied when it knows which are the ultimate causes; else a doubt must remain whether there is perhaps something beyond or outside of what we know.

#### 4. Scholastic Ontology

It has just been remarked that for the study of ontology the ordinary man's knowledge offers a sufficient basis. This statement must be modified for scholastic ontology. This for two reasons:

a. When, in the course of the middle ages, the Scholastics worked out their philosophical system, the world was Catholic, and the truths of the Catholic Church were taken for granted. One might say that they were part of the ordinary man's intellectual equipment as much as was his every-day knowledge. Hence as the latter must be at the basis of every sound philosophical system, so the former

were supposed to be included in the *initial attitude* of the aspirant to the Ph.D. The basis for ontology was neither altered nor shifted, but widened.

b. Among the truths of the Catholic Church some are accessible to reason, others (mysteries) are above reason. The Catholic Church defends both with equal fervor. Now no one can object to assuming truths accessible to reason as a basis for ontology. With regard to the second class of Catholic truths, viz. those which are *above reason*, we distinguish. *Per se*, they should not enter philosophy at all; for philosophy proceeds without the aid of revelation, and mysteries can only be known through revelation. Nevertheless, for practical reasons, some of them are referred to in the course of scholastic ontology (*supra* p. 44).

# PART 1

## BEING

We may study "being" either in its reality or in our concept. Our primary concern is, of course, "being" as it is in reality, not merely as we conceive it. However, we do not know it except through our concept. If then we distinguish between the two, this merely implies a difference of approach, not a complete separation.

A special chapter will be devoted to the "possibles", which the Scholastics also class among beings. Lastly, we shall examine the notion of "change" and the two Aristotelean notions derived from change, viz. act and potency.

# Being As Such

## 1. Definition

1. "Being" (*ens*, *res*, *aliquid*) is one of those *primitive* notions which defy strict definition. We can only *clarify* it by examining its grammatical form, by indicating synonyms or antonyms. Let us do so.

### a. Grammatical form

"Being" is evidently the *participle* of the verb "to be", meaning "to exist".<sup>1</sup> Now participial words like this may have the force of participles or of nouns; in the former case, they express the actuality of the verb, in the latter capacity or aptitude. "Being" then, as a participle, means "that which actually exists"; as a noun it means "that which can exist."

We take "being" as a noun, and therefore "being" to us means "that which can exist."<sup>2</sup>

Now when we say of a thing that it can exist, we often or generally imply that it does not exist. Not so the scholastic idea of "being"; the capacity to exist is not lost by actual existence. We, therefore, define "being" accurately as "that which can exist, whether it actually exists or not." This is called "being as such" (*ens ut sic*).

### b. Synonyms

English synonyms of "being" in this sense are: thing, something, reality, entity, object. Usage may at times give these a little more than is contained in the scholastic defini-

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<sup>1</sup>The verb "to be" may also be used as a *copula* and then expresses identity between S and P. But this is not meant by "being" as studied in ontology.

<sup>2</sup>Thomists, who take "being" as a participle, define it as "that which actually exists."



tion of "being". But since it also allows us to regard them as pure synonyms, we shall do so.

### c. *Antonyms*

Antonyms of "being" are: nothing, non-entity, unreality, nil (nihil, nihilum, non-ens). Since there is no medium between "being" and "nothing", both may be correctly defined negatively: "being" is "not-nothing", and "nothing" is "not-being."

Now if we examine the various meanings of "nothing," we shall be able to specify still further the exact meaning of "being." (a) "Nothing" may mean mere *absence* or *privation*. But though both are truly "nothing," there is a difference between them. A privation is absence of something in a subject whose nature demands it (e.g. absence of sight in man, absence of knowledge in one who boasts of being a scholar); privation is a lack, a defect. Not so mere absence, whether it be in a thing or not (e.g. absence of wings in man, absence of another world). Scholastics call it "negation."<sup>1</sup> (b) We may call "nothing" that which can exist, but does not (e.g. a golden mountain), or that which cannot possibly exist (e.g. a square circle, a filled vacuum). Scholastics call the former a "*positive nothing*," the latter a "*negative nothing*."

Returning now to the scholastic definition of "being," we must say that it is the immediate opposite of "negation" (in the scholastic sense), not of "privation," of "negative nothing," not of "positive nothing."

2. Though it is true that "being" cannot further be analyzed (viz. so that its parts could be used as predicates), yet we can make *two distinctions* in it:

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<sup>1</sup>Not so ordinary English, where "negation" means a negative proposition.

a. *Subject and form*

"Being" is a concrete term (like "man"). Now in a concrete term we may distinguish form and subject (supra p. 53). So in "being," too, we may distinguish the *capacity* to exist (opposition to negative nothingness) and *that which* has this capacity. Scholastics distinguish *entitas* (abstract) and *ens* (concrete); English has no word for the abstract form of "being," though it has "nothingness" for the abstract of "nothing"; "entity" is the same as "being".

b. *Essence and existence*

Looking at "being" from another angle, we may distinguish in it "essence" (that which can exist) and "existence" (that for which essence has a capacity). Both terms are as indefinable as "being"; but we may say that "essence" is that by which a thing is what it is, and "existence" that by which a thing is more than a mere possibility.<sup>1</sup>

However, there is a famous dispute among Scholastics as to what kind of *distinction* should be placed between essence and existence: real or logical.

Now all Scholastics say, of course, that in God there is perfect identity between essence and existence. God's essence and His existence are absolutely the same, though we, with our imperfect minds, separate them in our thought. But the scholastic dispute concerns *creatures*. And here again, Scholastics agree that all creatures depend for their existence on God's free will. Creatures are not necessary beings; they are first mere essences, possibles, then they are created and receive existence. If understood in this sense, one may say that there is a real distinction between a mere possible and an actual essence.

The question, however, is this: In a *creature actually*

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<sup>1</sup>Though several definitions of "existence" are current, they scarcely make us understand it better; some of them are misleading.

*existing*, what distinction is there between its essence and its existence? It is on this that Thomists and Suarezians differ. Thomists, following their master, firmly assert that the distinction is real, whereas Suarezians favor a merely logical distinction.

Historically speaking, the doctrine of the real distinction does not derive from Plato or Aristotle, nor from the Fathers of the Church, but from *Avicenna*. St. Thomas did not regard it as the foundation of his system, nor did the Thomists until a much later date. It was rejected by Suarez.

As for the doctrine itself, three remarks may suffice: (a) Since both sides to the dispute agree on the underlying facts, it all seems to be a question of words or rather of definitions; it all depends upon how we understand the terms that enter into the dispute (creature, essence, existence, real distinction). (b) Those certainly err who treat the question as fundamental in philosophy or theology or both. As both solutions are merely probable, it would be a tactical blunder to base the whole of philosophy (and theology) on either. (c) Two exaggerations must be avoided: If the real distinction is upheld, existence must not be treated as if it were another essence. Thomists do not always avoid this exaggeration. On the other hand, those who favor a merely logical distinction, must beware of deifying creatures. Only God's essence exists necessarily.<sup>1</sup>

## 2. Objective Validity

There is no doubt that to the terms discussed so far correspond concepts in our mind. But have they objective validity? Does anything correspond to them independently of the mind's concept? Or are they merely fictions of the mind?

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<sup>1</sup>To those Catholics who invoke the authority of the "24 theses" to force the theory of the real distinction on all Catholics, Suarezians rightly answer: The question evidently belongs to those on which "approved Catholic authors disagree." Now on such questions no one is prohibited from adopting the opinion which he thinks more probable. This is the principle laid down by Pius XI (Denzinger n. 2192) and repeated by Pius XII in an address to seminarians (June 24, 1939) and again in his encyclical on Sacred Scriptures. Cf. *Dict. de Théol.* s. v. *Jésuites* col. 1038-1043; *R. Martinez del Campo, S.J., Doctrina S. Thomae de Actu et Potentia* (Mexico 1944); *Raeymaeker*, *Introd.* p. 172-5.

1. No sane person doubts or can doubt that "being" is neither a mere word nor a mere concept. I exist, this building exists, other people exist, the sun and the moon and the stars exist etc. Therefore, they are beings—whether I think of them or not.

Even when "being" is predicated of possibles, it has objective validity. But this will be shown in another chapter.

2. What shall we say about "nothing"? Is it a mere concept? Or can one claim for it also objective reality? Can one say that "nothing" is real?

The mere question opens an alluring prospect for those who are over-subtle or given to quibbling. But subtleties and quibbling aside, is it not true to say that in a perfect vacuum there is really nothing? Or that a square circle is really nothing?

Hence, *in a sense*, also the concept of "nothing" is objectively valid. And this holds not only for "negations," but also for privations. The poor man really lacks money; he should have money, but he hasn't.<sup>1</sup>

### 3. Principles

1. By comparing "being" with itself and with "not-being" or "nothing," we readily arrive at the following principles:

a. The *principle of contradiction*: "Being" is not "not-being"; "being" cannot be "not-being"; "being" and "not-being" are mutually exclusive and incompatible. More accurate is the scholastic formula: "Nothing can be and not be at the same time and in the same respect (*idem nequit simul esse et non esse sub eodem respectu*). Thus a pupil cannot be at the same time bright and not-bright in mathematics, though he might be bright one day and dull another, or bright in English composition but not in arithmetic.

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<sup>1</sup>Cf. R. Allers, On Darkness, Silence and the Nought, in *The Thomist* 1946 p. 515-572.

The principle is immediate, analytic, self-evident. We need no middle term to prove it; we need only bring home to ourselves the exact meaning of the two terms "being" and "not-being" and compare them; finally we cannot help seeing its absolute truth once we do this. Illustrations and examples may be used, but they do not constitute its proof, nor are they, absolutely speaking, needed.

Hegel denied the principle of contradiction. But he did so because he misunderstood its terms. According to him, every difference (diversity, discrepancy) is a contradiction. Now one and the same thing can have different predicates, not only successively, but simultaneously (e.g. sugar is white and sweet). But no sane person calls that a contradiction.<sup>1</sup> You may say, of course: "Sweet" is "not-white"; therefore sugar is white and not-white. But this is a fallacy. Sweet and white denote different aspects of the same thing (taste and color).

b. The *principle of identity*: A is A; a thing is what it is (ens est quod est); everything is identical with itself.

This principle, just as immediate, analytical and self-evident as the principle of contradiction, only differs from the **latter** in the mode of expression; it enunciates the positive side of the same truth.

c. The *principle of excluded middle*: A thing<sup>2</sup> is or is not (ens aut est aut non est); there is no middle ground between "being" and "not-being".

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<sup>1</sup>W. Benn (Hist. of Rationalism II p. 84) says of Coleridge: "It may have been at the direct suggestion of Hegel that he learned to distinguish between the Understanding and the Reason, explaining Reason as a faculty which somehow enables us to believe in self-contradictory ideas, just because they involve a contradiction."

<sup>2</sup>The subject is here not taken in its full meaning; else this principle would contradict the preceding one.

Like the two preceding principles, this one, too, is immediate, analytic, self-evident.<sup>1</sup>

On account of its universality, the *principle of sufficient reason* may find a place here: Whatever is, has a sufficient reason for its being (*quidquid est, habet rationem sui sufficientem*). We shall say more about it later.

## 2. *Laws of Thought*

Our mind is made for the truth. And our mind is so constituted that it sees the truth of these principles easily and readily. This is especially true of the principle of contradiction. Even a child will look at you wonderingly or hold you up if you contradict yourself in two rapidly succeeding utterances. The child may never have heard of the principle of contradiction; its mind is guided by its cogent evidence all the same.

Among grown-ups, it used to be looked upon as a disgrace to be caught in a self-contradiction. Alas, how times have changed. Newspaper writers may be somewhat excused when they thus manhandle the truth; they write in a hurry and often do not remember today what they wrote yesterday. But many seriously-meant books are open to the same charge, though some may also be excused on the plea that the contradiction is hidden under the verbiage. It is a disquieting sign of the new era of skepticism.<sup>2</sup>

## 4. **Logical Being**

1. We have hitherto explained the notion of "real being", that which can really exist. But Scholastics also speak of

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<sup>1</sup>Modern "symbolic logic" claims to be able to show the truth of this principle better than does scholastic philosophy. The claim may be doubted.

<sup>2</sup>W. Benn (ib. p. 84) says of Benjamin Jowett: "His skepticism extended to logic, enabling him to hold two contradictory propositions at the same time; and also to hold a proposition without accepting all the consequences that accurate reasoning would show to be deducible from it"

a "logical being" (*ens rationis*), something which can be conceived by the mind, but cannot really exist. They therefore define it as "*something that can only exist objectively in the mind.*" Such is the reflex universal: one as common to many.

Every word in the definition is important. If "objectively" be omitted, the definition becomes too wide; for it would then include also the (subjective) acts of the mind; but, though etymologically "*ens rationis*" might be extended to them, scholastic usage forbids it. The definition would also become too wide if "only" were omitted; for, since all things can be conceived by the mind, the definition would include real beings. Lastly, the word "can" is important; if it were omitted, possibles, too, would be *entia rationis*; but to the Scholastics, possibles are real (though not actual) beings.<sup>1</sup>

2. Scholastics enumerate three kinds of logical beings: "negation" in the sense explained above, privation and relation. A "*negation*" as a logical being is mere absence conceived as something. Thus darkness is mere absence of light, nothing; darkness conceived as a black veil is a logical being.—A *privation* as a logical being is a privation conceived as something. Thus blindness in man is a privation; blindness conceived as a positive quality is a logical being.—A *relation* as a logical being is an unreal relation conceived as something real. We shall say more on this later.

3. Logical beings as such have, of course, no *objective validity*; nothing corresponds to them in reality, not even in the order of possibles; they are absolutely dependent on the mind's activity for their existence; they exist as long as

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<sup>1</sup>The English language has no accepted word for "*ens rationis*." I have called it "logical being"—in opposition to "real being." Others prefer "entity of reason," "conceptual entity," "logical entity," "figment of the mind." Agreement would be desirable. But no matter what term be used, the definition stands.

someone thinks them and not a second longer.<sup>1</sup> Still, as we saw in discussing reflex universals, logical beings may have a *foundation in reality*. While they themselves are mental constructions (due to the imperfection of the human mind), reality may offer us a solid reason for conceiving them thus; e.g. the similarity and dissimilarity between the various groups of beings.

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<sup>1</sup>*Science* is a logical being; science is neither books nor laboratories nor test tubes. Though it has a foundation in reality, science exists only as long as someone thinks of the relations (actually or habitually).



## Our Concept of Being

Having studied "being" in itself, we now consider our concept of it—first in itself, and then in its relation to its inferiors.

In logic we distinguished between the subjective and the objective concept, the former being the act of the mind by which something is conceived, the latter that which is conceived. In the present discussion, the *objective* concept is meant.

### A. THE CONCEPT IN ITSELF

#### 1. The idea of "being" is the *first*.

By that we do not precisely mean that it is the first which the child has on the awakening of reason, but that it is the *most fundamental*. It is included in all other ideas, and without it no idea has meaning. You may recall any of the ideas you ever had, and you will find the idea of "being" underlying them all—either directly or indirectly. Directly: the house is something that can exist; so is the book, the car, your parents etc.; nothing can be the direct object of our intellect unless it contains being. Indirectly: "being" is involved in its antonyms or opposites. We form them by denying "being" of them. This is apparent from the words we use for expressing such ideas: no-thing, non-entity, un-reality. As we think, so we speak. The same is true of "logical being."<sup>1</sup>

Therefore also the *three* principles laid down above are

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<sup>1</sup>Rosmini, Gioberti and other Italian philosophers of the first half of the 19th century thought that our first idea was that of *God*. They also thought that it was innate and involved in all other ideas. This theory is called *ontologism*, an aberration of ontology, because it misunderstands the "being" of which ontology treats. It will be refuted in other sections of philosophy.

rightly called *first* principles. They are the most fundamental laws of being and of thought.

2. The idea of "being" is *absolutely simple*.

It consists of only one indivisible note; it cannot be further analyzed, and so excludes definition in the strict sense of the word. Moreover, as refined by the Scholastics, it suggests no further implications (as do some of its synonyms).<sup>1</sup>

3. The idea of "being" is the *most abstract*.

For when we conceive "being", we omit all differences between the various beings or their groups; we do not even distinguish between actual and possible beings; we merely retain the one note common to them all: that which can exist.

As a result, (a) the idea of "being" is the most indeterminate, indefinite, confused; (b) the idea of "being" is the greatest in extension and the least in comprehension.

Against this, one might raise an objection. "Being" is a concrete term, and as such includes form and subject: "capacity to exist" (opposition to nothingness) and "that which has this capacity." Is then the concept "capacity to exist" more abstract than "being"?

In a way, yes. But neither can this capacity exist except in a "being," nor can it be predicated except of itself; it is an "abstract" concept. Now we are considering concrete concepts, which can be used as predicates of various subjects.

4. The idea of "being" is *one*.

No matter of what subject we predicate it, it is always the same. We say: God is a being, man is a being, lions and oaks are beings. We mean the same thing in every case, because that which we express in the predicate, remains the same. This unity of the idea of "being" could be destroyed only if "being" included either "nothing" or the differences of beings. But the simple idea of "being" positively excludes "nothing," and the differences are not there as such.<sup>2</sup>

<sup>1</sup>Though *God* is the simplest of all beings, our concept of God is by no means the simplest. This is due to our imperfect mode of cognition.

<sup>2</sup>It may not be out of place to remark that this unity of our idea

## B. RELATION TO INFERIORS

What is here meant by "inferiors", was explained in logic (supra p. 52, 96). We shall discuss first the relation of our concept of "being" to its inferiors in general, and then to the primary divisions of "being," the so-called "immediate inferiors of being."

## 1. Inferiors in general

"Being" can be predicated of anything that exists or can exist. The question now is: *How* is it predicated? And since there are five modes of predication (see p. 97-8), the same question may be put more distinctly: Is "being" predicated of its inferiors as a genus, or as a species, or as a specific difference, or as a property, or as a (logical) accident?

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of "being" does not imply the real identity of all things, as the Eleatics taught, or as pantheists and monists hold. The unity is only in our concept; there is a real multiplicity of things outside the mind. Our senses assure us of that.

**The concept of "being" is not universal, but transcendental. Hence it abstracts imperfectly from the differences of its inferiors, and is compounded with them only in the sense that the same reality is made more distinct.**

In spite of Scotus, the thesis enunciates the *common* doctrine of Scholastics. We shall explain and prove it in three parts.

1. A *universal* concept is one which can be predicated of all the members of a class, but only of them; a *transcendental* concept can be predicated of all things, and so transcends all classes of beings.

Now the concept of "being" is not restricted to any class, but can be predicated of all things whatsoever.

Therefore the concept of "being" is not universal, but transcendental.

*Cor.* In particular, the concept of "being" is neither (a) a *genus* nor (b) a *species*. Not the former, because it includes all differences between beings, whereas a generic concept does not include them; nor the latter, because it cannot be broken up into a genus and a specific difference.—Nor is "being" (c) a *specific difference*; for it does not differentiate one class from another.—Finally, it is (d) neither a *property* nor (e) a (logical) *accident*; for it belongs most intimately to the essence of all things.

*Schol. 1.* That "being" is a transcendental concept, would seem evident. Yet *Scotus* denied it. For, since things certainly differ among themselves, he argued thus: If the *differences* among beings were also "being," (a) they would add nothing to "being as such," and (b) the concept of "being" would contain contradictories and so destroy itself.

Our immediate answer is this: If the differences among beings were not also "being," they would be nothing, and then joining them to "being" would bring about no differentiation. But the positive answer is contained in the next two parts of the thesis.<sup>1</sup>

*Schol. 2.* The term "transcendental" has an altogether different meaning in *Kant's* philosophy. There it refers to the psychological investigation of the a priori conditions of our cognition. With Scholastics it refers to ontological reflection.—Kant also distinguishes "transcendent" from "transcendental"; "transcendent" to him is what lies beyond all possible human cognition.<sup>2</sup>

2. *Abstraction* in general is mere omission. Thus we abstract "man" from Peter by omitting his individuality; for Peter is compounded, as it were, of the essence of "man" (that which makes him a man) and his individuality (that which makes him this man). Because in this case Peter's individuality is left *wholly* aside, this kind of omission is called *perfect abstraction* (also perfect precision).

Now our concept of "being" is certainly abstract, the most abstract of all. Yet, strange to say, it omits nothing of what is in Peter; for whatever is in Peter (be it his essence or his individuality, his substance or his accidents), is something, and therefore included in the concept of "being."

This process is called *imperfect abstraction* (or imperfect precision), and consists in conceiving the whole of the inferiors, but only confusedly and indistinctly, viz. so that differences do not appear.

3. The opposite process to abstraction is *logical composition*. Now ordinarily we join to a concept something which

<sup>1</sup>Cf. *A. B. Wolter, O.F.M., The Transcendentals and Their Function in the Metaphysics of Duns Scotus.* Washington 1946.

<sup>2</sup>The so-called "Transcendental School" of New England (Emerson etc.) boasts of an intuitive knowledge of things human and divine, is averse to any formal system of thought, exalts the "spiritual" over the material, and believes in the self-sufficiency of the individual.

is wholly outside of it. But outside of "being" there is only "nothing." Therefore composition, in the case of "being," cannot consist in adding something entirely different from it, but only in rendering the same concept less confused and more distinct.

In other words, differences of "being" are not extrinsic additions, but *more distinct* expressions of what is in the inferiors. They are modes of "being."

## 2. Immediate Inferiors

Scholastics enumerate four "immediate" inferiors of "being": God and creature, substance and (ontological) accident.

Since this is a systematic treatise, we now suppose not only their existence, but also the precise definitions given them by the Scholastics. But if we consider merely their capacity to exist, they evidently constitute *two pairs*: (a) *God* is of Himself (ens a se), *creatures* are through another (ens ab alio); (b) *substance* is in itself (ens per se or in se), the *accident* is in another (ens in alio). Their concepts then are in some way compounds of "being" and the "primary" modes, which are: independence (aseitas) and dependence (abaleitas), self-sufficiency (perseitas, inseitas) and inherence (inaleitas).<sup>1</sup>

These are called "*immediate*" inferiors because they are the highest or first divisions of "being." The inferiors of "creature," of "substance" and of "accident" might be called mediate inferiors.

The question now is: How is "being" predicated if the immediate inferiors are compared among themselves? Is it predicated of God in the same way as of creature, of substance in the same way as of accident?

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<sup>1</sup>The Latin prepositions used here (ab, in, per) must be and are rendered differently in English. The abstract nouns (aseitas etc.) are untranslatable; while aseity may be used, the others sound absolutely foreign to us.

**As predicated of its immediate inferiors, the term "being" is neither univocal nor equivocal, but intrinsically analogous.**

1. "As predicated etc." means that we take either of the two pairs of immediate inferiors at a time, and see if "being" is predicated of both members of the same pair in the same way.

2. What are *univocal*, *equivocal*, *analogous* terms, see p. 56.

We begin with the *term* rather than with the concept of "being." This for two reasons: (a) The whole question is what kind of concept is behind the term "being" when we apply it to two of the primary divisions of "being." (b) A further reason is that there is no such thing, properly speaking, as an equivocal concept; what is sometimes called so, consists really of two concepts hidden under the same word (as e.g. "light" as predicated of a room and of a parcel).

3. *Analogy* is an imperfect relation. It is called *intrinsic* when that which is signified by the term is formally (i.e. according to its definition) in both analogues (e.g. heat of 90° and 100°). It is *extrinsic* when that which is signified by the term is formally only in one member of the relation (e.g. "health" is formally only in animals, not in food).

The thesis enunciates a doctrine *common* among Scholastics. Only *Scotus* and his school are sometimes said to have held that "being" was as univocal as any universal term; but some think that the difference of his doctrine from the common one is more verbal than real, or that he merely wished to stress the unity of the concept of "being."—Karl Barth, a Protestant theologian, maintains that God is "wholly other" than the creature, so that the term "being" has two entirely different meanings as applied to God and the creature.

**Proof of Thesis**

1. "Being" is not *univocal*.

A univocal term is one whose meaning remains intrinsically the same no matter to which of its inferiors it is applied.

Now this is not so in the case of "being" as applied to its immediate inferiors; else God would be partly indifferent toward being of Himself, and creatures would be partly indifferent toward being through another. A like reason holds for the second pair of immediate inferiors, substance and accident.

Therefore "being" is not univocal.

2. "Being" is not *equivocal*.

a. Our concept of "being" is *one*.

Now an equivocal term requires more than one concept. Therefore "being" is not equivocal.

b. An equivocal term is one which is predicated in *entirely* different meanings.

Now the meaning of "being" is not entirely different as predicated of either pair of its immediate inferiors; for all of them are really alike in this that they are something and not nothing.

Therefore "being" is not equivocal.

3. "Being" is *analogous*.

An analogous term is one whose meaning is *partly the same* and *partly different* as predicated of various inferiors.

Now (a) "being" is partly the same; for God and the creature agree in being really and truly something (not nothing); so do substance and accident; (b) "being" is partly different; for as it is in God, it is wholly of Himself, whereas in creatures it is wholly from another; again, as it is in substance, it is entirely in itself, whereas in accidents it is entirely in another.

Therefore "being" is *analogous*.



*Objections:*

a. "Being" is an absolutely *simple* notion and has no parts. Therefore it cannot be partly the same and partly different.

A. *Dist.* it is absolutely simple in itself, *yes*; its concrete mode of existence cannot differ, *no*.

b. "Being" merely means opposition to nothingness; "being" is "not nothing." Now this meaning remains the *same* whether "being" is predicated of God or creature, of substance or accident. Therefore "being" is univocal.

A. The same distinction as above.

4. The analogy of "being" is *intrinsic*.

"Being," as applied to either pair of its immediate inferiors, is intrinsically analogous if they all are formally beings.

Now not only God, but also creatures, not only substances, but also accidents are *formally* beings. They are not merely called beings by extrinsic denomination, as food is called healthy because it contributes to the health of animals.

Therefore the analogy of "being" is intrinsic.

**Corollaries**

1. Though our concept of "being" is one, its *unity* is *imperfect*; it is less perfect than that of universal concepts which are predicated of all their inferiors in the same way.

2. *No predicate whatever* applies in exactly the same way to God and the creature; for all predicates include the notion of "being," which is analogous. For the same reason, the same thing holds true of any predicate as applied to substance and accident.

3. *Substance* is predicated analogously of God and the creature.

4. *Creature* is predicated analogously of (created) substance and accident.

*Schol. 1.* When we have proved that "being" as applied to its immediate divisions is intrinsically analogous, we have not said all. The relation *within* the two pairs is such that the creature is wholly dependent on God, the accident on

the substance. Where such a relation exists, we speak of *primary* and *secondary* analogues. The primary analogue of the first pair is God, the secondary the creature; for "being" is primarily in God, and in creatures only with absolute dependence on God; if there were no God, there would be no creatures. Similarly, the primary analogue of the second pair is substance, the secondary accident.

Moreover, the *dependence* of accident on substance is not the same as that of creature on Creator. Creatures depend on the Creator as their ultimate efficient and final cause; for they are made by God and for God. Accidents depend on substance as their proximate cause.<sup>1</sup>

*Schol. 2.* A distinction is called for when the further question is put: How is "being" predicated of pairs of *mediate* inferiors? If the inferiors belong to *different* supreme divisions or categories (e.g. horse and black), the predication is analogous. But if the inferiors belong to the *same* category, the predication may be univocal or analogous.

*Schol. 3.* Scholastics distinguish *three kinds* of analogy: attribution, proportion and proportionality. However, they do not agree on the exact definition of each, and, partially as a result, there is no agreement in answer to the question: Which of these three kinds of analogy is meant in the thesis?

But in a textbook for beginners this question may be left to private initiative.

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<sup>1</sup>This latter point is proved in special Metaphysics.

## Possibles

“Being” is that which can exist, whether it actually exists or not. We are more familiar with actual beings. But, as philosophers, we must not pass by those *things which can exist, but do not*. They are called possibles. And possibility (the abstract form) is the capacity of a non-existent being to exist. Its opposites are two: impossibility (incapacity to exist) on the one hand, and actuality or existence on the other.<sup>1</sup>

Before proceeding to the various questions concerning possibles, we must introduce the distinction between internal and external possibility.

*Internal* possibility is the mere non-repugnance of a thing. It consists in this that there is no contradiction between the notes of the thing (e.g. ring of gold); its notes are said to be compatible or sociable.—But internal possibility is not sufficient. Nothing can pass from non-existence to existence except with the aid of an already existing being, which has the power or virtue to bring this about (principle of causality); if there is no such actual being, internal possibility is of no avail. Thus though water has the internal possibility of being heated, it will never be heated except through an external agent with the requisite power (e.g. the sun). *External* possibility then is the existence of a being able to bring about the existence of something internally possible, to change internal possibility into actuality.—There should be no difficulty now in understanding what is internal and what external *impossibility*.

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<sup>1</sup>Of course, since God exists necessarily, possibility in our sense is restricted to *creatures*, but it applies analogously to both substances and accidents.

A thing is said to be *adequately possible* if it is internally and externally possible.

Three questions concerning the possibles are of interest to the philosopher: (a) Can we rightly say that possibles are *real*? (b) Seeing that possibles do not exist, can we *know* them, and if so how? (c) What is the *ultimate* reason why some things are possible (internally), others impossible?

### 1. The Reality of Possibles

When we say that possibles are realities, we do not mean that they have internal actuality; if they had, they would be divine and God Himself; for possibles are necessary, and God alone exists necessarily.—On the other hand, possibles are neither absolute nothing nor mere “logical beings”; for they have the capacity to exist, which neither absolute nothing nor the logical being has.

The reality proper to possibles may (with some Scholastics) be called “metaphysical”; but the term is then used in a very particular sense.

### 2. Our Knowledge of Possibles

We can know possibles. Not all of them, to be sure, because our mind is finite. But some.

First of all, we can know the possibility of *artificial* things (e.g. aeroplanes). Every patent registered at Washington proves it; for the patent guarantees something that did not exist before, though it was possible right along and was only waiting for someone to realize its possibility.—Secondly, we can know the possibility of non-existent *mathematical* figures (e.g. a figure with a thousand equal sides).—Thirdly, with regard to *natural substances*, we must distinguish. We certainly know the possibility of a greater number of beings of which specimens already exist (e.g. more babies, another world); we cannot be so sure about the possibility of beings of which we have no specimen (e.g. Homer’s cyclops).

Let us add that we also know that some things are internally *impossible* (e.g. a square circle); for we clearly see the contradiction between their notes.

One might argue against the foregoing from the scholastic axiom that nothing is in the intellect except what was in the senses. But the answer lies in understanding the axiom right. We know possibles only by *starting* from actual beings. If we had never seen anything sail through the air, we might never have hit upon aeroplanes.

### 3. Ultimate Foundation of Possibles

The third question is: What, ultimately, makes a thing internally possible? Why, ultimately, is it that some things are possible, others impossible?

Let us first of all reject two opinions which are certainly false. (a) William of Ockam made the possibility of things depend on *God's power*. Things are possible, according to him, because God can bring them into existence. But leaving aside the confusion between internal and external possibility, we may refute the theory by drawing out its logical conclusions: If Ockam's opinion were true, either God would not be omnipotent (for certain things are evidently impossible) or there would be no impossibilities at all (a circle might be round or square). (b) Descartes made the possibility of things depend on *God's free will*. Things are possible, according to Descartes, because God freely willed that they should be possible. But if this were so, there would be no impossibility, at least not of anything in particular (e.g. a square circle); for God may want to create it. Nor would there be any certainty; for certainty implies the impossibility of the contradictory being true.

The positive answer to this question, however, is contained in the following three assertions:

a. If we look for the ultimate *formal* constituents of possibility, we must say: A thing is possible because its

notes are not mutually exclusive, but may be combined into one concrete being (e.g. body and soul).

b. Ultimately, things are internally possible because they are *imitations of God's essence*, participations of the divine Being. For God's essence being the fountainhead of all reality, the tenuous reality of the possibles must also proceed from it. Vice versa, the ultimate reason why certain things are impossible, is that God's essence cannot be imitated in this way, that they would suppose a contradiction in God's own Being.

It follows that a thing may be possible though it will never exist; for the imitability is real whether the thing ever exists or no. Such things are called "*pura possibilia*" by the Scholastics.

On the other hand, this view does not imply ontologism, as Mercier thought. Possibles depend on God's essence in the ontological order; but to know them, we do not first have to know God's essence. Like all our cognition, knowledge of the possibles is derived from *experience*.

c. Scholastics dispute whether or in what sense the possibles depend on *God's intellect*. No doubt, God knows all possibles, and nothing is possible except as known by Him. Thomists hold that the possibles depend radically on the divine essence, but formally on the divine intellect. For God's essence cannot be imitated as it is, and the possibles are contained in it only eminently; something further is therefore needed to constitute them formally possible. Suarez, however, denies this distinction between radical and formal dependence.

The question is perhaps one of words rather than of ideas.

## Change

Related to the notion of "being" is that of "change." For what changes, is and is not; it has a past, present and future; it was that which it is not now, or it was not that which it is now; it will be that which it is not, or it will not be that which it is.

Though change, being restricted to creatures, is not a transcendental concept, yet it is fitly treated here; for it extends to all mundane things, with which our cognition begins, and has led to the doctrine of act and potency, most fundamental in scholastic philosophy and theology.

### 1. Definition

Change (becoming) is the *transition of a thing from one mode of being to another*. While a thing is in transition, it is said (by Scholastics) to be "in fieri" (in the making, becoming); when the transition is completed, it is said to be "in facto esse." In English we have no technical terms for these two states, though we say: "The house is building or is being built (in fieri), the house is built (in facto esse).—*Changeable* (mutable, variable) is that which can pass from one mode of being to another; *unchangeable* (immutable, invariable, permanent, fixed) is that which always remains the same.

*Synonyms* for "change" are: alteration, mutation, conversion, transformation, variation etc., though actual usage gives them more specific meanings. *Antonyms* are: constancy, fixity, permanence etc. The term "evolution," though often used loosely for "change," really means the transition of a thing from a less perfect state to one more perfect; e.g. the acorn evolves into an oak.

## 2. Elements of Change

Looking closer now at the concept of change or becoming, we can distinguish in it various elements.

a. Change supposes a *common subject*, that is, something which passes from one state to another, yet remains the same in the process (e.g. water which was cold and is now hot). The word is used in a wider (improper) sense if it is applied either to a case of *substitution* (e.g. a change of clothes) or to *creation* and *annihilation*; for there is no common subject in these cases (though we often supply one in thought).

b. There must be *two terms*: a *starting-point* (*terminus a quo*) and a *terminus* (*terminus ad quem*). Change must begin somewhere and end somewhere. Both terms may, however, be taken *totally* or *formally*. The total starting-point is the subject plus the state to be changed (e.g. cold water); the formal starting-point is the state to be changed (e.g. the cold of the water). The total terminus is the subject plus the new mode (e.g. hot water); the formal terminus is the new mode (e.g. the heat of the water).

c. But "formally" change consists in the *transition* (passage) from one term to the other. This element of "change" must be experienced directly and cannot be further analyzed.

## 3. Objective Validity

No need to delay on this. The reality of change is so evident that none but philosophers ever denied it. The Eleatics (Parmenides, Zeno etc.) indeed said that all change was an illusion, that this world was a frozen sea; Zeno in particular advanced four famous arguments to prove that locomotion was impossible. But Socrates, relying on the axiom: *Contra factum non valet argumentatio*, refuted him by walking up and down in front of him. Anyhow,



that all things in this world change like the moon, is but too painfully evident; it moved Ecclesiastes to exclaim sorrowfully: *Vanitas vanitatum et omnia vanitas*.

Nevertheless, three exaggerations are to be avoided:

a. Heraclitus of old thought that there was only change in this world, *nothing stable and permanent* (πάντα ρεῖ, οὐδὲν μένει), and he compared the world to a sea of fire. Prof. Whitehead of Harvard today agrees with him. But this opinion is evidently an exaggeration; man, for instance, has not changed essentially during the thousands of years for which we have authentic records. The question can only be how far and how much things do change.

b. Change is sometimes *hypostatized*. We speak of change as if it existed by itself. But change means merely a transition; it cannot exist except in something else, in the common subject.

c. Unlike the Eleatics, Hegel did not deny change, but thought that "becoming" involved a *contradiction*, identifying "being" and "not-being." According to him an acorn is and is not an oak.

But the contradiction is easily shown to be imaginary. The acorn is and is not an oak under different aspects; it is an oak in germ, it is not a full-grown oak-tree. Scholastics distinguish: An acorn is an oak in *potentia* (in fieri), not *actu* (in facto esse).

#### 4. Divisions

a. Change is *intrinsic* or *extrinsic*, according as the two states are something in the subject itself or merely external relations to it. Thus heating changes water intrinsically, but changes due to mere locomotion are extrinsic.<sup>1</sup>

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<sup>1</sup>Many philosophers (besides the Eleatics) and modern scientists deny real intrinsic changes. We shall prove the reality of some in the chapter on **Accidents**.

b. Change is *accidental* or *substantial*, according as the (formal) terminus is a new (ontological) accident or a new substance. Thus when water is heated, the change is accidental; but chemical changes are said to be substantial; certainly metabolism is a substantial change (from non-life to life).<sup>1</sup>

c. Change is called *positive* or *negative*, according as the (formal) terminus is something positive or negative (e.g. gaining or losing life). Scholastics call the former "generation," the latter "corruption," but show their intimate connection by laying down the axiom: *Corruptio unius est generatio alterius*; if a thing loses one mode of being, it necessarily acquires another. Exceptions seem frequent, as when fire consumes wood. But they are only apparent. The axiom really flows from the definition of "change": "Change" can be looked at from two angles, viz. a losing of one mode of being, and a gaining of another.

d. Change is *gradual* or *instantaneous*, according as the transition takes time and involves various stages or comes about in an instant. The ordinary changes which we observe around us, are gradual (e.g. the change of the acorn into an oak, of a caterpillar into a butterfly); chemical changes are said to be instantaneous, though there may be preparatory stages to the change itself.

e. Change is *artificial* or *natural*, according as it is brought about artificially (as when rags are made into paper) or is due to natural forces; these forces may be extrinsic to the thing changed (as in the weathering of rock)

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<sup>1</sup>Not only scientists, but also some modern Scholastics deny that there are substantial changes (see Cosmology). We shall show, in the chapter on Substance, that substantial change does not involve a contradiction, and so is at least possible; that is sufficient warrant to introduce this division here.

Substantial change was called *generation* by the Scholastics, accidental change *alteration*.

or intrinsic (as when a tree grows from the seed or decays through old age).<sup>1</sup>

f. As has been stated, *creation* and *annihilation* are not changes in the proper sense of the word, because in neither case is there a common subject. Still, it will do no harm to look at their definition.

Considered *formally*, they are defined as follows: Creation is the transition from complete non-existence to existence. Its quasi starting-point therefore is (relative) nothingness; its terminus is existence. Annihilation, the opposite process, is the transition from existence to complete non-existence. They differ therefore from generation and corruption.

The Scholastics, considering the process *causally*, define creation as "productio rei ex nihilo sui et subiecti," and annihilation as "reductio rei ad nihilum sui et subiecti."

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<sup>1</sup>Some changes are partly artificial, partly natural (e.g. in grafting).

## Act and Potency

What was said in the last chapter, is mainly common sense. After Aristotle, however, Scholastics went deeper, and, while trying to make *natural* and *intrinsic* changes intelligible, they evolved the doctrine of act and potency, which some regard as the most fundamental. de Wulf calls it "the corner-stone of the metaphysics of contingent being" (Hist. II p. 13).<sup>1</sup>

To prove that all change is illusory, *Parmenides* formulated this argument: The starting-point of a change would either be "being" or "not-being." It cannot be "being," because that already is; nor can it be "not-being," for it would be foolish to say that "being" starts from "not-being"; *ex nihilo nihil fit*. Therefore all change, all becoming is metaphysically impossible.

Of course, one way to answer *Parmenides* would have been to appeal to experience (as Socrates answered Zeno): the oak that grows from the acorn, the child that grows into manhood, the block of marble that becomes a statue etc. But Aristotle took up *Parmenides*' own argument from the standpoint of metaphysics, and showed its sophistry by supplying a third member for the major: *potential being*. Change, he said, starts neither with "being" nor with "not-being," but with *potency*. Or change begins with both "being" and "not-being," viz. *ens in potentia*, a being—not in act, but in potency for an act. Change is the transition of a being *from potency to act*.

We shall study first the definitions of this pair of con-

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<sup>1</sup>Others, however, make "order" the most fundamental concept of philosophy, and others again "participation," viz. in God's being.

cepts, then their divisions, and finally some principles based on them. As experience amply warrants us in asserting changes, even natural and intrinsic changes, we can omit establishing the objective validity of the notions and divisions explicitly.

## 1. Definitions

*Act*, in scholastic language, means an actual being, determination, perfection (in their widest sense); it expresses the participial use of a participle, as when we speak of the act of reading.—*Potency* is the capacity for an act, i.e. to give or receive an act. Thus fire has the potency to heat water; cold water has the potency to receive heat.<sup>1</sup>

## 2. Divisions of Potency

### 1. *Objective* and *subjective* potency

The terms “object” and “objective” as well as “subject” and “subjective” have a multiplicity of meanings in scholastic philosophy. As used here, their meaning is unique, and we shall do well to look closely at the definitions.

*Objective* potency is the capacity of a *non-existent* being to exist (e.g. the world prior to creation). It therefore is proper to the possibles, and may also be defined as “mere non-repugnance.”<sup>2</sup>

As a rule, potency means *subjective* potency. This is the capacity of an *existent* being to give or receive an act. Thus fire has the capacity to heat water (*active* potency); water has the capacity to be heated (*passive* potency).—More

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<sup>1</sup>A certain confusion is apt to arise from the fact that act and potency may be used concretely or abstractly. “Act” may mean the act of a being or a being with an act; potency may mean the capacity of a being or a being with a capacity. The danger lies in this that one may hypostatize what cannot exist in itself.

<sup>2</sup>This potency is called “objective” because all possibles are the object of divine cognition. However, it is not a potency in the proper sense, just as creation, by which it is actuated, is not a change in the proper sense.

properly, the acorn has the *tendency* (exigency, necessity, dynamics) to become an oak; there is a dynamic power in the acorn, which forces it (under favorable conditions) to develop into an oak.<sup>1</sup>

Where change is gradual and passes through various stages before the terminus is reached, Scholastics distinguish between *remote* and *proximate* potency. Thus ice may be said to be in remote potency to boil; for it must first be liquefied and heated, degree by degree, until it reaches the boiling point.

2. Proper to Scholastics is the division of subjective potency into natural and obediential. *Natural* potency is the capacity of an existent being for a natural act, i.e. one for which it has a natural aptitude. Thus water has a natural capacity for wetting. An *obediential* potency is the capacity of an existent being for a supernatural act, i.e. one for which it has no natural aptitude whatever, but for which it can be "elevated" by God. Thus, in baptism, water has the capacity to wash away sins.<sup>2</sup>

### 3. Division of Act

1. A *pure act* (actus purus) is a being without passive potency, and therefore unchangeable; such is God alone. A *mixed act* (actus mixtus) is a being with passive potency, and therefore changeable.

2. Existence itself is called an *entitative* act; all other determinations which a thing may have or receive, are called *formal* acts or simply *forms*.—Existence is also called *first* act (actus primus), all other determinations *second* acts (actus secundi).<sup>3</sup>

### 4. Principles

1. Potentia et actus dividunt ens. Whatever is, is either act or potency. What is neither, is nothing.

<sup>1</sup>Cf. G. J. Gustafson, *The Theory of Natural Appetency in the Philosophy of St. Thomas* (1944).

<sup>2</sup>As philosophy is not concerned with the supernatural, this division may be omitted. Potency, in philosophy, means *natural* potency.

<sup>3</sup>These distinctions and terms are unknown in English. But let the student realize the essential difference between existence and whatever else is called act.

2. A being cannot, at the same time and under the same respect, be in potency and in act. For one implies the absence of the other.

3. A being is the more perfect the more it has of act; it is the more imperfect the more it has of (passive) potency. The reason is that (passive) potency implies the absence of the perfection for which the being is in potency.

4. To every natural potency corresponds an act. This is evident from the definitions. Potency would have no meaning if there were no act for which it denotes the capacity.

5. To every passive potency corresponds an active potency. Water can be heated because fire can heat it.

6. A potency that cannot become act, is useless. This is evident.

7. *Agere sequitur esse*. The term "esse" here may mean existence or essence. Hence the principle may bear two meanings, both true and important philosophically: (a) Nothing can act unless it first exists; (b) as a thing is, so it acts, or activity corresponds to essence (being). In the logical order, the principle may be turned around, and then we get two new meanings, also true and important philosophically: (a) if a thing acts (produces an effect), it exists; (b) as a thing acts, so it is, i.e. from the activity of a thing we can conclude to its nature.

But taking now the first meaning in the ontological order, we may ask: How does action (*actus secundus*) follow existence? Immediately?

At times, yes. But between them there may be *various stages*, for which Scholastics introduced special names. Since they are awkward to translate, they are here given in Latin. A thing is *in actu primo* for action by the mere fact of existence; it is *in actu primo remoto* inasmuch as it has also the capacity (faculty) to act; it is *in actu primo proximo*

when the thing is all ready to act and there are no external impediments. Finally, a thing is *in actu secundo* when it actually acts. The various stages may be illustrated by the tennis player, who (a) exists, (b) knows how to play, (c) is all set and shouts "ready," (d) actually serves the ball. The example is, however, only analogous to what the Scholastics primarily meant by the distinction, because there is no exigency or necessity for anyone to play tennis.

Besides the seven principles enumerated, *Thomists* put forward others, which, however, are modified or rejected by non-Thomist Scholastics. They are chiefly the following three:

a. Act is *prior* to potency. But this principle calls for a distinction. Act, being more perfect than potency, is prior in *dignity*; also, unless there had been an act to begin with (*viz. God*), there would be no potency whatever. But in other cases, potency is prior to act; fire first has the power to heat and then heats.

b. Act and potency are *really distinct*. But this principle too, needs qualification. It is true of the passive potency of an existent being; it is also true of the active potency of creatures, in which action is a new perfection. But it is not true of active potency as such.

c. *Actus non limitatur neque multiplicatur nisi per potentiam subiectivam*. Act in itself is unlimited and one; to be limited or multiplied, it must be received in a (subjective) potency. Non-Thomists simply deny this principle as resting on a false supposition, *viz.* that the ontological order must be parallel to the logical.



## PART 2

### ATTRIBUTES OF BEING

Scholastics enumerate three attributes of "being," co-extensive with it and equally transcendental: unity, truth, goodness.

St. Thomas proves that no other is possible by the following argument: An attribute must *add* something to "being." Now such an addition cannot be something different from "being." Therefore it can only be a "negation" or a relation, and the latter must refer either to the intellect or to the will. Now "negation" added to "being" gives us unity, which denies division of the being; from the relation of "being" to the intellect we have (ontological) truth, viz. intelligibility of "being"; from the relation of "being" to the will we have goodness, viz. the desirability of "being."

Nevertheless, some Scholastics add a fourth transcendental attribute, viz. beauty—some considering it an aspect of goodness, others setting it down as distinct from the other three.

# Unity

While unity is indeed the idea underlying this whole chapter, the Scholastics really study three pairs of notions closely related to one another: (a) the one and the many, (b) identity and likeness, (c) distinction and diversity.

## A. THE ONE AND THE MANY

### 1. Definitions

"One" (unit) is that which is *undivided in itself*. Unity or oneness, the abstract, therefore, is *absence of division*. But though these definitions are negative, yet, as we shall see, unity is undoubtedly a positive perfection.

It is necessary to distinguish "one" and "unity" from related notions. (a) "One" is not the same as "*whole*." A whole is that which lacks none of its parts. (b) Unity is not the same as *union*. Union presupposes many, which unity does not. (c) "One" is not the same as *unique*, nor is unity the same as unicity (uniqueness). A being is unique when there is no other like it.<sup>1</sup>

"Many" (multitude, multiplicity) are things *divided from one another*. In this sense, even two or three are many.

A *number* is also a multitude, but as measured by a unit (e.g. 10 feet).<sup>2</sup>

### 2. Divisions

1. A *simple* being is not only undivided in itself, but

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<sup>1</sup>Uniqueness is *essential* when the being cannot have its like (e.g. God); it is *accidental* when the being has not its like, but could have (e.g. the first helicopter).

<sup>2</sup>"One" is also the principle of number; for all numbering begins with "one," the "unit." But the "one" of which we now speak, has nothing to do with that. Our "one" is merely that which is *not many*.

also *indivisible* (e.g. the human soul); it is undivided actually and potentially.—A *composite* being is undivided, but divisible (e.g. man); it is undivided actually, but not potentially.

From this we easily see what is a potential and what an actual *multitude*.

2. A being is a *natural unit* (naturally “one,” unum per se) if or inasmuch as it has all those things which it needs for complete existence. A natural unit may be simple or composite; but if it is composite, its parts by themselves are naturally incomplete.—An *accidental unit* (accidentally “one,” unum per accidens) is a being really divided, but somehow united.

There are numerous kinds of accidental units, but four of them stand out: (a) Closest to the natural unit is the substance with its natural (really distinct) *accidents* (e.g. Peter with his weight, size, color etc.). (b) A *moral unit* is a multitude of rational beings united by a moral bond (e.g. husband and wife, an army). (c) An *artificial unit* is a multitude of pieces joined together mechanically for a definite purpose (e.g. an aeroplane, a watch). (d) A mere *aggregation* (mass, collection) is a multitude in which the union is purely external and haphazard (e.g. a heap of stones).

3. Scholastics further distinguish the unity of the universal, of essence, of the individual. (a) The first unity is not real, but logical; for the universal, while one in the mind, is many in reality (e.g. the one concept of “man” covers millions of individuals). (b) The second unity, called formal, consists in this that no essence can be divided into several, and yet remain itself. (c) Likewise, the third unity consists in this that no individual as such can be multiplied; else there would be two Peters who would be one and the same individual (an universale a parte rei).

### 3. Principles

1. *Every being is one* (omne ens est unum).

The truth of this principle is self-evident. It is best illustrated by taking an example. Every man is one; at death, body and soul are separated; what is the result? Man disappears because his unity is gone.<sup>1</sup>

One might quibble over this principle and argue thus: A *multitude* is something—and therefore, in accordance with this principle, should be one; but it is not. The answer is easy. In itself, a multitude is simply many, not one; it may, however, have an *extrinsic* unity (e.g. because all are in one room, or because I bring them all under one concept).

2. *Whatever is one, is "being"* (omne unum est ens). The truth of this principle, too, is manifest. Unity cannot be predicated of nothing.

The principle must, of course, be understood to mean that "being" is in the same order as "unity." If "unity" is actual, "being" is actual; but if "unity" is only potential or logical or extrinsic, so is "being."

3. Combining the two principles just discussed, the Scholastics formulated the following: "*Unity*" and "*being*" are convertible (ens et unum convertuntur).

4. *The greater the unity of a being, the greater its perfection* (actuality). For the greater the unity of a being, the farther it is removed from its opposite (division) and therefore from nothingness. Conversely, the less the unity of a being, the less its perfection as a being. Hence a simple being is more perfect than a composite being, and a natural unit is more perfect than an accidental unit.

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<sup>1</sup>The principle is sometimes enunciated thus: All beings are one. But this is open to grave misunderstandings. It may be taken to mean that all beings are really one and the same being, which is the error of monists, pantheists, some idealists etc.

#### 4. Individuality

In modern parlance, individuality (personality) often means force of character or a notable originality in speech and action. Not so in scholastic philosophy. There the term "individual" bears *two distinct meanings*, which ought to be kept carefully apart, but neither of which has anything to do with its modern meaning.

In the first meaning, "individual" is merely the *opposite* of "*universal*" (e.g. this individual house as compared to "house in general"). In this sense, it is generally used as an adjective (e.g. this individual house). Its abstract is "individuality," meaning merely "this-ness" (*haecceitas*), that by which a universal concept is narrowed down to one of its inferiors.—In the second meaning, "individual" is generally used as a noun, and means a *complete substance* existing by itself (e.g. Peter is an individual or person).

We speak now of "individual" in the first meaning. And concerning it we have the evident principle: *Whatever exists, is individual* or singular. As "individual" here is merely opposed to "universal," the proof of this principle coincides with the arguments by which exaggerated realism is rejected.

But Scholastics ask themselves two abstruse questions:

a. The first refers to the so-called "principle of individuation": *What is "individuality"?* What must be added to a universal to make an individual? What e.g. does this-ness add to house?

Following therein Aristotle, St. Thomas and many Thomists answered: *materia signata*, quantified matter, matter with a definite quantity. This opinion has many drawbacks.<sup>1</sup>

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<sup>1</sup>(a) It seems logically to make the form universal; yet the human soul, the form of man, is certainly individual of itself. (b) It leads to the incongruity of saying that every angel is a species; for being a pure spirit, it has no matter, quantified or unquantified. (c) Ac-

Scotus' answer was "haecceitas"; the universal receives a "haecceitas" and thus becomes an individual. More probable is Suarez' opinion: The reality itself, the mere fact of (possible or actual) existence makes a thing individual. Only individual things can exist, universals depend on the operation of the mind.

b. The second question is: What kind of *distinction* is there between this-ness and the universal (e.g. between "this" and "house").

Thomists insert a real distinction, Scotists their "formal" distinction; more probably the distinction is only conceptual.

## B. IDENTITY AND LIKENESS

1. Two things are *identical* (the same) when *one is the other*, when one can be affirmed of the other in the nominative (in recto); as when I say: This building is a school. *Identity* (in the abstract) then is affirmability in the nominative.<sup>1</sup>

"Equivalent" or "interchangeable" are not the same as "identical". Idiomatically we sometimes distinguish: A carbon copy is identical in substance with the original, but it is not the same document. Cf. also "personal identity" (identify, identification) when someone proves that he is the one he claims to be.

One might object against our definition that there can be no identity where there are *two* (one and the other), and that therefore the definition is bad. The objection would have weight if identity were affirmed of two adequately distinct things. But such is not the case. Our definition means that, while in reality there is only one thing, this has been

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cording to the common scholastic doctrine, matter has all its determinations from the form; how then can it be quantified prior to the form?

<sup>1</sup>We add "in the nominative," because other cases do not express identity; as when I say: this garage belongs to John.

conceived twice by the mind, each time differently, so that there are *two distinct concepts*; after comparing the two concepts, we judge that they express the same reality. Therefore there is first of all a mental distinction (a breaking up of one thing into two) and then identification in an affirmative judgment.<sup>1</sup>

2. Two (or more) things are *alike* (similar) when they agree in the same form, as when two cars are of the same make. *Likeness* (similarity, resemblance, uniformity) then is agreement of two (or more) things in the same form.<sup>2</sup>

If two things are alike in their *nature* (complete or incomplete), the relation between them is called "logical identity" (as e.g. the human nature common to Peter and Paul). If two things are alike in *quality*, their relation is likeness or similarity or uniformity in the strict sense (e.g. the color of two autos). If two things are alike in *quantity*, their relation is called equality.—*Analogy* implies likeness and unlikeness.

3. If now we compare the two notions, we arrive at the following conclusions: (a) Two things which are identical, are really one, and it is for this reason that one can be affirmed of the other; but two things which are alike, are really two, and it is for this reason that one cannot be affirmed of the other. (b) Both identity and likeness are relations; but identity is a logical, likeness a real relation.

## C. DISTINCTION AND DIFFERENCE

### 1. Definitions

Two things are *distinct* when one is not the other, when one can be denied of the other in the nominative; they are

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<sup>1</sup>Recall what was said in logic about formal and material, complete and partial identity.

<sup>2</sup>In English, the word "identical" sometimes denotes very close resemblance; e.g. identical twins.

*different* (dissimilar, unlike) when they have not the same form.<sup>1</sup> Hence, in the abstract, *distinction* is the absence of identity, or negability in the nominative; *difference* (diversity) is absence of likeness, disagreement in form.

## 2. Divisions of Distinction

One division is easily understood from what we saw in logic. We speak of things as *numerically* or *specifically* or *generically* distinct when they are not the same individual or belong to different species or to different genera. Just as we also say that things are numerically or specifically or generically the same, when they are the same individual or merely belong to the same species or to the same genus.

But there is another division very important in the whole of scholastic philosophy; it is that between real and logical distinction. A *real distinction* is that between two beings; a *logical* (mental, conceptual) distinction is that between two concepts of the same being. Either distinction is *adequate* if the two beings or the two concepts are totally distinct, or *inadequate* if one member partially contains the other.

### I. REAL DISTINCTION

#### 1. Subdivisions

There are undoubtedly *many subdivisions* of real distinction, but they are so diversely denominated that, on reading an author, one is often at a loss to tell from his terminology which is meant. For there are at least *four classes* of beings between which there is some sort of real distinction: existent (actual), merely possible, modes of being, logical beings; one might also add that between God and creature, between substance and accident. Moreover, the question may arise what kind of real distinction there is between two things

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<sup>1</sup>In ordinary speech, the two terms are often used indiscriminately.



which belong to the same class (e.g. two possibles) or to different classes (e.g. between an existent and a possible being).

As is clear, the number of possible distinctions (generically speaking) is by no means small, and there are not enough terms to go around. Pair of terms frequently met with are: metaphysical and physical, positive and negative, major and minor. Unfortunately, their meanings vary from author to author. The student is therefore advised, instead of learning hard and fast definitions, to memorize the *generic possibilities* of real distinction and to reduce all to them.

## 2. Signs of Real Distinction

In many cases, there is no doubt whatever that two things are really distinct, as when they exist at different times or places. But two things may be *united* (e.g. body and soul, the tree and its branches, iron and its weight), or we may have merely *two concepts* to begin with. In such cases, it is not always easy to decide whether we should call a distinction between them real or logical.

Casting about therefore for *signs* that would indicate a *real* distinction, the Scholastics laid down the following four: (a) If one can *vary* without the other varying (e.g. the heat of a body and its weight); for one and the same thing cannot vary and not vary at the same time. (b) If the two can be *separated* from each other and yet continue to exist (e.g. a tree and its branches); for nothing can be separated from itself.<sup>1</sup> (c) If one is really *produced* by the other (e.g. thought and intellect); for nothing can produce itself. (d) Finally, if there is real *opposition* between the two, such that it could be reduced to a contradiction.

3. For want of a better place, Scholastics here discuss

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<sup>1</sup>This sign is, however, doubtful if after separation one or both perish.

the question: What kind of distinction is there between the *metaphysical grades* (*gradus metaphysici*) of a creature?

Metaphysical grades are those perfections (notes) which constitute the nature of an individual. Thus Peter is a substance, living, sensitive, rational. At least we can distinguish them in Peter; we have *many concepts*. The Scholastics, therefore, ask whether the distinction between them, as they exist in the individual, is real or logical?

But it is plain that to insert a real distinction here would be a form of exaggerated realism. Therefore the common scholastic doctrine holds out for a merely logical distinction between the metaphysical grades.

## II. LOGICAL DISTINCTION

### 1. Subdivisions

A logical distinction is said to be *with* or *without foundation in reality* according as the two concepts are formally different or formally the same. The Scholastics called the former "*distinctio rationis ratiocinatae*," the latter (purely conceptual) "*distinctio rationis ratiocinantis*."—Moreover, the foundation for the first distinction is called *perfect* when the object of one concept can exist without the other; if not, the foundation is called *imperfect*.

### 2. Foundation of logical distinction

Generally speaking, the foundation for a logical distinction is the *reason for making it*. There is always a *subjective* reason; our mind, being very imperfect and getting at reality piecemeal, cannot penetrate the whole of a being at a glance, and therefore conceives it by parts, thus introducing distinctions where there may be unity and identity. But if *reality* itself offers us a reason for making the distinction, we speak of a *foundation in reality*.

This foundation is not always of the same nature. It may

be equivalence or eminence or intelligibility, as will appear in the course of philosophy.

### III. OTHER DISTINCTIONS

#### 1. Formal Distinction

Midway between real and logical distinction, the *Scotists* placed a third, which is often designated as "formal" or as "Scotistic" (being peculiar to that school). Scotists themselves called it "*formalis ex natura rei*": "*formalis*", because it is supposed to hold between so-called "*formalities*" or "*adequate concepts*" of the same thing; "*ex natura rei*" (or "*a parte rei*"), because it is supposed to exist independently of the mind. Scotists generally put it where Thomists and Suarezians disagree, the former holding out for a real, the latter for a logical distinction; e.g. between essence and existence, between being and its individuality, between the metaphysical grades etc.

The majority of Scholastics reject the distinction altogether—for two reasons: (a) No distinction is possible midway between real and logical; the "*formalities*" of which the Scotists speak, either refer to two beings or to one. (b) The Scotistic distinction is contradictory, as it is supposed to depend and yet not depend on the mind.<sup>1</sup>

#### 2. Virtual Intrinsic Distinction

This distinction is defined by its patrons as "the capacity of God to have intrinsic attributes which in creatures would be contradictory."

The definition calls for a little explanation. (a) The distinction refers only to *intrinsic* attributes, not to external relations; there is no special difficulty about the latter. (b) The distinction does not say or suppose that there are or can be contradictory attributes in God, but that the same attributes (finite, of course) *would be* contradictory in creatures. (c) The distinction would seem to be *proper to God*, viz. on account of the *infinity* of His being and of all His attributes.<sup>2</sup>

Though this distinction cannot be called common among Scholastics, yet (a) it is not absurd, since it does not allow contradictories in the same being; (b) it is not strictly midway between real and logical distinction; it is a real distinction, though not actual.

#### 3. Modal Distinction

This distinction was introduced by Suarez on account of his doctrine on "*modes*" (*infra* p. 375). It develops the second sign of a

<sup>1</sup>Cf. M. J. Grajewski, *The Formal Distinction of Duns Scotus* (1944).

<sup>2</sup>If a similar distinction could be assumed in creatures, it would mean that one creature has attributes which in another creature would be contradictory. Thus there is no contradiction in having an intellect joined to a human body; there might be in having it joined to the body of an ape.

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real distinction: separability (supra p. 340). A distinction is real if the separability is *mutual*, that is, if both things can exist after separation (e.g. man's body and soul); a distinction is modal if the separability is *non-mutual*, that is, if one of the entities disappears after separation (e.g. the crook of the finger after straightening out).

# Truth

Whereas in epistemology we dealt with logical truth, the conformity of the mind to reality, and with its opposite, error, we now speak of so-called *ontological* truth and its opposite.

## 1. Definitions

The term "ontological truth" (and consequently also its opposite) has two slightly different meanings:

a. Ontological truth is the *conformity of a thing to the mind*—as when we speak of a true friend or a genuine diamond. Ontological falsity, its opposite, is the (positive) *difformity* of a thing with the mind—as when we speak of a false friend, the wrong road etc.

To bring home to ourselves the precise meaning and objective validity of these definitions, let us ask ourselves: Why do we call some things true (genuine), others false (wrong, spurious, sham, counterfeit)? Evidently because the former agree, the latter disagree with our ideas of them. A true friend agrees with what we understand by friendship; a false friend disagrees with it. Therefore, what determines this kind of truth or falsity, is *the mind*. In ontological truth, mind is the measure and standard for things, whereas in logical truth things are the measure and standard for the mind.

b. Scholastics give to the term "ontological truth" a second, though closely related meaning, viz. *intelligibility*. Its opposite is unintelligibility (nonsense).

To understand this definition, let us look at an artificial object, e.g. a watch. We can understand a watch because it was made intelligently, by an intelligent workman; the

watch reflects the mind of its maker and is in conformity with it. Not so the absent-minded drawings which doodlers make; we cannot understand them.

## 2. Principles

### 1. *Every being is true* (omne ens est verum).

The truth of this principle cannot be doubted by those who admit that *God* exists and that He created all things. For (a) God's own being certainly agrees with His idea of it and is therefore true. (b) God did not create blindly, but fashioned the world and all its parts in accordance with a definite plan or idea; also those creatures which are merely possible, are possible only because they are in conformity with God's intellect. Therefore all creatures, existing or possible, are ontologically true. Lastly (c) since all (natural) beings agree with the divine intellect, they are also intelligible.<sup>1</sup>

Identical with this principle is that of *sufficient reason*: Whatever is, has a sufficient reason for its being (quidquid est, habet rationem sui sufficientem).

Against this principle one might bring forward four instances: (a) There are *monsters* in the world (e.g. two-headed calves, Siamese twins); these things evidently do not agree with God's idea, nor can we understand them. (b) *Artificial* things (razor, auto, monkey wrench) are creatures; yet how can they be said to agree with God's mind, since it was man who invented them? (c) Also the *doodler's drawings* are beings, and so should be intelligible. (d) Lastly, what about *logical beings*, such as the Tree of Porphyry?

The answer would not seem too difficult. (a) A *monster* as such is precisely not intended by God; Scholastics say it is per accidens. But this being an imperfect world, God permits causes to operate at times so that monsters will result. (b)

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<sup>1</sup>Evidently this principle cannot be proved except we suppose the existence of God, the all-wise Creator of all things. If this is not supposed, we can prove at most that *many* things are conformed to *our* mind, viz. because we understand them. But we could say nothing about things which we do not know; nor could we say that things *must* be as they are (essences and properties).

*Artificial* things are proximately fashioned by us in conformity with our ideas. But our intellect is made in accordance with God's idea and is an image of His intellect. Therefore artificial things, too, are ultimately in conformity with God's intellect (c) The *doodler's figures* are intelligible, though not reasonable. The psychiatrist understands and explains them; but they are not in accordance with right reason. (d) Properly speaking, the principle refers only to real beings. However, inasmuch as *logical beings* may be likened to artificial products of our mind, the answer to the second instance applies here also.

2. *Whatever is true, is being* (omne verum est ens).

After the preceding proof, this principle is manifest. For whatever is true, is in conformity with the divine intellect. Now whatever has this conformity, is or can be, and is intelligible; precisely because it lacks this conformity, "nothing" (e.g. a contradiction) cannot be, and is unintelligible.

3. Therefore (a) "*being*" and *truth* are convertible, and truth is a transcendental attribute of "*being*"; (b) truth is not really distinct from "*being*," but a transcendental relation of all beings to the divine intellect.

### 3. Ontological Falsity

If all things are true, no being is false. Yet we call many things false. Are we justified in this according to scholastic philosophy?

If we look a little closer at what we mean by "ontologically false," the difficulty vanishes. When we call things false, we compare them with *our* notions or expectations of them. And we call them false only in three cases: when they appear to the *casual observer* to be what they are not (thus pyrites are called fool's gold), or when they are made by man for the *purpose* of deception (e.g. a sham battle, counterfeit money), or when they fall short of man's *intention* (e.g. a false note).

But it is plain that all things which are thus called false, are true in another sense; e.g. fool's gold is true pyrite; false re is mi etc.

## Goodness

Together with goodness, it behooves us to examine also its opposites, which are "evil" (badness) and "indifferent."

### 1. Definitions

"Good" is usually defined as "*desirable*," this term being taken in a very wide sense. "Goodness" (in the abstract) then is "desirability" (appetibility). "Bad" or "evil," on the other hand, is "undesirable," and "badness" (in the abstract) is undesirability.

Now desirability (appetibility) is clearly a relative term and involves a relation between two beings: one lacking something or conceived without it, the other capable of satisfying this lack; one lacking a perfection (also taken in a very wide sense) or conceived without it, the other capable of supplying it. Hence a better definition of "good": something capable of satisfying a want. It is something fit, suitable, perfective—the Scholastics called it "*con-veniens*" (coming together, fitting). And "goodness" is "fitness," "suitableness," "perfectivity," the capacity to give a perfection which is lacking.

The opposite of "good" is "bad" or "evil." Bad is that which is unfit, unsuitable—the Scholastics called it "*in-con-veniens*." "Bad" is *harmful*, because it goes against an inclination or tendency. "Badness" is unfitness, unsuitableness, contrariness.

Whereas there was no third concept between "one" and "many," nor between "true" and "false," there is one midway between "good" and "bad." It is "*indifferent*," that which neither meets a want nor yet goes against an inclination.



That these are true definitions, appears from every-day practice. When we want to convince someone that this or that is good for him (e.g. medicine), we show him that it satisfies a capacity, an inclination, a tendency of his. To turn him away from something bad, we point out to him that it is against his inclination or tendency. Finally, there are things which leave us cold; they are indifferent as far as our wants or inclinations go.

## 2. Divisions of "Good"

1. A *real* good (*bonum verum*) is something really perfective (e.g. food for the hungry). An *apparent* good (*bonum apparens*) is either in itself bad, or at least not good for this individual (e.g. alcohol for the drunkard).

When a being (such as man) has many distinct inclinations subordinated one to another, this division may be understood thus: A *real* good is something suitable for the principal inclination of the being; an *apparent* good is something suitable for just one tendency, but not in subordination to the principal one.

2. An absolute or *intrinsic* good (*bonum sibi*) is that in a being which perfects it (e.g. man's intellect is good for him). A *relative* good (*bonum alteri*) is something capable of perfecting another being (e.g. ozone is good for tubercular patients).

3. The principal division of "good," however, is based on the following consideration: Something is good either because it directly perfects its possessor or because its possessor can, by means of it, get something directly perfective. To put it another way: A thing may be desirable for its own sake or for the sake of something else.

The second kind of "good" is the *useful* (*bonum utile*); e.g. medicine is not desired for its own sake, but for the sake of bodily health.—The first kind of "good" is **again**

subdivided. A *pleasurable good* (*bonum delectabile*) is either the cause of pleasure (e.g. a cigar, candy, a ticket to the circus) or the pleasure itself (e.g. the subjective pleasure one experiences in smoking or eating candy or watching a circus). A *befitting good* (*bonum honestum*) is that which is really perfective (e.g. knowledge befits a rational being).

Two remarks will further elucidate this important division of "good." (a) The division does not imply that some things are merely useful, others merely pleasurable, others again merely befitting. Not things are classified, but *different aspects* under which things can be or are desirable. Nor does the division imply that all things have these three aspects, but simply that these three aspects are found in things. And daily experience tells us that this is so; hence the division is objectively valid. (b) Goodness is predicated *analogously* of the three members of the division. Properly speaking, only what befits a being, is a good, because it alone really perfects the being. The pleasurable, meaning the pleasure itself, though desirable for its own sake and hence formally good, is evidently meant as an aid in acquiring what befits. But the cause of pleasure as well as the useful are good only on account of their relation to the subjective pleasure or the befitting good; they are causally good.

4. The befitting good is subdivided in the case of free agents (such as man). The *physical* or *natural* good perfects man's physical nature (e.g. exercise, study). The *moral* good perfects man as a free agent (e.g. obeying one's conscience).<sup>1</sup>

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<sup>1</sup>Catholics also make another division: the *natural* and the *supernatural* good, according as the good furthers merely the natural end of man or contributes to his supernatural end.

### 3. Divisions of "Evil"

Like "good," "evil" may be real or apparent, intrinsic or relative, harmful or disgusting, physical (natural) or moral. These divisions are easily understood by comparison with their opposites.

Many today would deny the last division of "evil." They will not admit *moral evil* (sin) except so far as it is a physical evil; they may condemn self-indulgence, but only because it injures one's health, or because it goes against our social standards. But we certainly have a *conscience*, which clearly tells us that some actions are morally right, others morally wrong—whatever be the physical consequences. Also the history of religions shows that man has always made the distinction between sin and physical evil; that men have sometimes disagreed on what particular actions are sinful, is beside the point.

### 4. Objective Validity

What is the objective validity of the two concepts "good" and "evil," is apparent from the examples given and will be examined more philosophically in thesis 25. But when *Christian Scientists* say that evil is mere imagination, we need only appeal to ordinary common sense. The San Francisco earthquake, the Chicago fire, World War I and II were evils, yet very real. People may, of course, suffer from imaginary diseases, but our hospitals, year in and year out, house plenty of patients who are really sick. Nor is sin imaginary; for it is a real transgression of a real law of God.

According to Spinoza, we do not desire things because they are good; we call them good because we desire them, and we desire them because we must.

But this is topsy-turvy reasoning as we know from daily experience. We first realize that something is capable of satisfying our want (e.g. a good piece of beefsteak when we

are hungry) and then desire it (infra p. 409).—As regards the necessity of desire, Scholastics distinguish: something proposed to the appetite as good naturally and involuntarily attracts the appetite; but man at least has the power of self-control; he can desire the known good voluntarily or turn away from it.

### 5. Scholastic Axioms

Most of the following axioms on goodness were taken by the Scholastics from the works of Pseudo-Dionysius (6th century A.D.). But while they were originally drawn from Plato's Philosophy, the Scholastics trimmed them of the extravagant implications they had there borne.

#### 1. *Goodness is diffusive* (bonum est diffusivum sui).

St. Thomas understands the axiom of "good" as an *end*. Goodness, by its nature, attracts and becomes an end. A good thing imparts some of its goodness to the *means* by which it is attained; e.g. medicine becomes desirable because it helps to regain health.—St. Bonaventure, however, refers the axiom to *efficient* causality, reducing it to the more general scholastic principle: "Every agent produces something like itself" (omne agens agit sibi simile); therefore a good agent produces something good.<sup>1</sup>

2. *The more universal a good, the better it is* (bonum quo communius, eo melius). The axiom, practically a corollary of the first, seems self-evident, but the comparison must be restricted to goods of the same order.

3. *Every agent intends some good* (omne agens agit propter bonum), and *evil as such is never intended* (nemo intendens malum operatur). From which it follows that goodness is the *causa per se* of goodness, and only *causa per accidens* of evil, as also that evil is an *effectus per accidens* of good (infra p. 404).

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<sup>1</sup>The axiom must not be taken to mean that a good thing *necessarily* produces something else to spread its own goodness. If taken in that sense, it would destroy God's freedom in creating.

4. *Only the wholly good is good; any defect renders the thing bad* (bonum ex integra causa, malum ex quolibet defectu). Lest this axiom be misunderstood, note the two following points: (a) The axiom refers to *intrinsic* (absolute) goodness; only that can be called *simply* good which lacks none of the perfections it should have. (b) The axiom applies particularly to *moral actions*. Moral actions are good only if their object, their purpose and their circumstances are good; if any of these three is bad, the moral action is rightly called bad.<sup>1</sup>

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<sup>1</sup>Cf. S. Thomas, Summa theol. I II qu. 18.

**“Good” and “being” are simply convertible. Evil as such is not a mere nothing, but a privation, and can therefore only be in and by something good.**

The thesis expresses the common scholastic doctrine on the metaphysical foundation of “good” and “evil.”

### *Notions*

“*Good*” is something which can perfect a being.—“*Being*” is that which can exist.—“*Evil*” (bad) is something harmful to a being. Evil *as such* or badness is that on account of which something is harmful.—“*Nothing*” is the mere absence of something.—*Privation* is the absence of a perfection in a being that should have it (*absentia perfectionis debitae*).

### *Meaning of thesis:*

a. The first part means that all being *as being* is good, and that whatever is good, *insofar as good*, is being. By “good” we mean *real*, not merely apparent good.

b. In the second part, we do not deny that there are evil things (e.g. bad companions, obscene books); but we speak of that *on account of which* something is called bad or evil. By “evil” we mean again *real*, not merely apparent evil.

c. In the third part, we claim that the *material* (“in”) and the *efficient* (“by”) cause of evil is something good. We assert then that badness, unlike mere nothing, *inheres* in something good, and that it is the *effect* of something good. Observe, however, that the term “inheres” here is extrinsically analogous as compared to physical accidents (on which see below p. 363), and that the evil “effect” never flows *per se* from “good,” but only *per accidens*.

### *Opponents of thesis*

a. *Zoroaster*, the founder of the Parsee religion (6th century B.C.) and the *Manicheans* (3rd to 5th century A.D.) held two ultimate principles: one of light, the other of darkness; one wholly good, from which come all good things; the other wholly evil, which created things wholly bad, specifically, matter.

b. *Christian Science* calls evil (pain, sickness, sin etc.) a mere fiction of the human mind (or imagination).

### Proof of First Part

#### 1. *Every being is good*

a. That every being is *absolutely* or intrinsically good (bonum sibi) may be shown thus: Every being, *God or creature*, has its own nature, purpose, existence or at least capacity to exist. Now all these things certainly perfect the being which has them.

b. That every being is *relatively* good (bonum alteri), is proved thus: All beings are either God or creatures. Now (a) God is good to creatures; for He is their efficient, exemplary, final cause; (b) all creatures are either substances or accidents; if substances, they perfect their accidents, inasmuch as they are their material causes; if accidents, they in turn perfect their substances, inasmuch as they are new forms of being.

*Obj.* Some things are *indifferent*.

*A.* Certainly not as far as their intrinsic (absolute) goodness is concerned. Nor can anything created be indifferent to the cosmos as a whole; else why would God create it. Finally, we do not claim that all parts perfect *all* other parts in *every* respect.

#### 2. *Whatever is good, is a being.*

An intrinsic good perfects the being which has it; a relative good perfects another being. Now that which can perfect, is necessarily something real, a being; "nothing" cannot perfect.

*Cor. 1.* Therefore "being" and "good" are simply convertible.

*Cor. 2.* Therefore evil as such is nothing, not-being.

*Cor. 3.* Therefore a being *wholly evil* is a contradiction in terms. Such a being would destroy itself, as Pseudo-Dionysius already urged against the Manicheans,

*Objections:*

a. These corollaries lead us straight to the position of Christian Scientists, who also say that evil is nothing.

A. We agree with the Christian Scientists that evil as such is nothing, but we shall prove at once that evil is not a mere nothing, but a *privation*, the absence of a perfection due to the being.

b. The *mere absence* of sin, of pain, of error is good.

A. *Dist.* intrinsically good, *no*; extrinsically, *yes*. Thus absence of sickness is good extrinsically, because it denotes health, which is a positive good.

c. We speak of *greater and lesser* evils. Now "nothing" cannot be greater or lesser. Therefore evil cannot be nothing.

A. An evil is called greater or lesser extrinsically, viz. on account of the good of which it denotes the lack. Thus when a good is greater or more necessary, we call its lack or absence a greater evil.

d. *Error* is an evil, yet it is a positive act of the mind, viz. a judgment.

A. *Dist.* error as an act of the mind is evil, *no*; the difformity of the judgment with reality, *yes*.

e. Nothing except a positive being can *act* (*agere sequitur esse*). Now badness as such can act; thus a rotten apple infects the others in the same barrel.

A. Not rottenness as such produces the infection, but the apple.

f. That which can *move* beings, must be something positive. Now evil can move beings; thus the burnt child avoids the fire, the lamb flees the wolf.

A. *Dist.* that which can move as an efficient cause, *yes*; as a final cause, *no* (*infra* p. 406, 409).

**Proof of Second Part**

a. Evil, the opposite of good, is either a mere nothing or a privation. Now evil is not a mere nothing; else all beings would be evil, since all lack something (e.g. God has no body; man has no wings; plants have no eyes). Therefore evil is a privation.

b. We do not call a thing evil except when it lacks a perfection which it *should* have (e.g. the tree that bears no fruit). Now the lack of a perfection which a thing should have, is a privation, and we distinguish it clearly from the lack of something which a thing cannot or need not have.

**Proof of Third Part**

1. Unlike a mere nothing, privation, by its very concept, is necessarily *in* a being. Now every being is good. Therefore evil must be in something good.



*Objections:*

a. "Being" cannot be the subject of "nothing," nor can "nothing" be said to inhere in "being."

A. *Dist.* in the usual or proper sense of the terms, *yes*; in an (extrinsically) analogous sense, *no*. Usually and properly speaking, the subject and that of which it is the subject (or that which inheres in it) are both real beings; in our case, one is nothing.

b. "Nothing" requires no subject in which to inhere.

A. *Dist.* a mere nothing, *yes*; a privation, *no*.

c. If "good" were the subject of "evil," it could itself be called evil (just as the subject of whiteness is called white). But to call "good" evil, is absurd.

A. *Dist. M.* "good" could be called evil inasmuch as it lacks something it should have, *yes*; in the sense that the being is evil insofar as it is being, *no*.

Our speech is patterned after *reality*. Even when we speak of "nothing," we speak in accordance with this pattern, and a superficial mind may thereby be lured into wrong conceptions. It is the part of philosophy to show that such modes of speech are merely extrinsically analogous.

2. Unlike a mere nothing, a privation needs an *efficient cause*. Now nothing can be an efficient cause unless it exists (*agere sequitur esse*), and what exists, is "being" and hence good. Therefore the efficient cause of evil is something good.

However, we must here make a distinction. What the efficient cause produces, is always something positive and "being"; but when the effect lacks something it should have, the cause is said to have produced it *per accidens*.

# Order

## 1. Definition

The word "order" has many meanings more or less allied (see Dict.). We take it now in its most common and fundamental meaning, which is "*a harmonious and methodical arrangement of things.*" Its opposite is disorder, chance, haphazard.

In every order we can distinguish matter and form: the *matter* are the things arranged, the *form* is the proper arrangement itself. To be proper, the arrangement must be based on a certain aspect or *principle* which the things to be arranged have in common. Thus in a library, books are arranged according to their subject-matter or their authors or their size; in a dictionary words are arranged alphabetically in accordance with their initial letters.

## 2. Divisions

1. An order is *simple* or *complex* according as the arrangement is based on one or more principles. Thus the librarian may arrange books according to their subject-matter without paying any attention to size, or he may arrange them in accordance with both. A complex order easily becomes *complicated* and then loses its purpose.

2. The order of things is sometimes *necessary* (e.g. the foundation, the walls, the roof of a house), sometimes *arbitrary* (e.g. the pieces of furniture in a private room).

3. In a *static* order things do not change (e.g. the books in a library); in a *dynamic* order things change constantly (e.g. the cells in a living organism).

## 3. Axiom

A complex order, especially if constant and dynamic, cannot be due to chance, but postulates an *intelligent* cause.

Such an order we have e.g. in the human organism, which consists of billions of minute cells, which are not all of the same nature and change constantly; yet order is preserved among them as long as the organism is alive.

#### 4. Objective and Subjective Order

Philosophers often use the word "order" where its strict meaning is absent. Thus they speak of the *objective* (ontological) and the *subjective* (logical) order. The objective order is reality in all its variety, considered as the possible object of our cognition and volition, but independent of either. The subjective order are our cognitions and volitions themselves. Thus abstraction, reflection, reasoning etc. pertain to the subjective order.

Or if we stress succession (first, second etc.), we may say: We speak of the objective order when we place things as they follow one another in reality; we speak of the subjective order when we place things as they follow one another in our cognition. Thus God is first in the objective order, creation second; but our cognition begins with creation and through it ascends to God.

The objective order is again variously subdivided: (a) the *metaphysical* order refers to the essences of things, the *physical* to things as existing; (b) the *physical* order is sometimes taken as opposed to the *moral*, that is, to rights and duties, virtue and vice; (c) the *natural* order is made up of those things which do not exceed the powers and exigencies of nature; those which exceed them (e.g. grace), belong to the *supernatural* order.

## PART 3

# CATEGORIES OF BEING

### 1. Definition

The number of individual objects, existing or possible, is well-nigh infinite, so that if one were to set out to know them all separately, he would be reaching for the stars. But by means of our *universal concepts* we can reduce things to certain classes, and by means of wider and wider concepts we can arrange them in species and ever higher genera. In such classifications the so-called natural sciences are of inestimable value; thus zoology classifies all animals, botany all plants, chemistry inorganic substances. And while these sciences deal with complete beings, others rather deal with one or the other of their aspects or qualities.

Now it is evident that all these sciences are limited to some particular field (material object) and to some particular viewpoint (formal object). Is there not a science which comprehends all reality, considering it from the standpoint of our *highest concepts*? There is. It is metaphysics. We have already considered the highest of all our concepts, "being" and its attributes. But "being," as we saw, is an analogous concept. We now are looking for the *highest universal concepts*, which are predicated *univocally* of their inferiors. These are called categories or predicaments.

Ontology or general metaphysics studies these concepts themselves, their properties and primary divisions. Special metaphysics applies them to reality.

### 2. Things to be Classified

The doctrine on categories as evolved by the Scholastics applies only to *finite* and *real* beings. Therefore (a) God, the infinite being, does not fall under any category.

He is outside and above all classification, and no predicate applies to Him univocally with creatures. (b) Neither "nothing" (either mere absence or privation) nor logical beings are here classified; for they are not real beings.

Only those beings in which the whole concept is verified, fall *directly* under the categories. Those are individuals, species, genera etc. To parts of them (e.g. the specific difference) the categories apply only indirectly (reductively). Thus the properties of substance apply directly only to the whole man, not to the body or the soul, the two parts which make up man.

Finally, only things in *facto esse* (e.g. the oak) fall directly under the categories, not things in *fieri* (e.g. the acorn).

### 3. Number of Categories

The Scholastics took their doctrine on categories from Aristotle. Now Aristotle reduced all things to *ten categories*, viz. *substance* and *nine classes of accidents*: quantity and quality, relation, time and place, activity and passivity, posture and habit. The division is by no means perfect. "Of the completeness of this framework Aristotle is convinced, but he nowhere tells us how he came to set out only these categories and no others; and among the categories themselves there is little indication of any fixed principle for their evolution" (Zeller, Aristotle I p. 279-280). But since philosophy calls for some scheme of categories, Scholastics adopted his with slight modifications. Other philosophers since Aristotle have laid down other schemes; but they all exhibit fundamental defects, especially because wrong principles of division were chosen.<sup>1</sup>

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<sup>1</sup>Kant's doctrine on categories is wrong because he defines them as mere forms of thought, denying that they are also forms of being, or at least that we know whether they are also forms of being. He enumerates 12 categories.

The Scholastics also introduced another change. With Aristotle, the word "category" meant "predicate," something that can be predicated of individuals, or, in a special sense, one of the highest univocal predicates, and therefore one of the *highest classes* under which individuals can be grouped. The Scholastics called the latter "praedicamenta." Later Scholastics extended the term to mean a *natural series* of highest and lower classes (Tree of Porphyry).

#### 4. Division

The last two categories, called by Aristotle *κείσθαι* and *ἔχειν*, by the Scholastics "situs" and "habitus" are ill-defined; hence we shall omit them altogether. But we shall first take substance and accident in general, then relation. The other accidents will be left to cosmology, where they find immediate application.

# Substance and Accident in General

“Substance” and “accident” as used by Scholastics are more or less *correlative* terms, so that each is understood better by being at once compared with the other. In this chapter we shall explain the meaning of the two terms, their objective validity, axioms pertaining to them and their primary divisions.

## A. DEFINITION

In ordinary speech, substance means the material of which anything is made (e.g. the wool of the jersey) or a condensed statement of a discourse; in chemistry, substance denotes a particular kind of matter (e.g. iron or gold). “Substantial” is the same as solid, valuable, considerable. Accident is any event, particularly when unforeseen and unpleasant. Accidental we call something not intended, not foreseen, not essential.

In ordinary speech therefore there is no opposition between substance and accident, between substantial and accidental.

### 1. Scholastic Definitions

In scholastic terminology, substance and accident are antonyms. *Substance* is something existing by itself or in itself (ens per se, ens in se); the (*ontological*) *accident* is something existing in another (ens in alio).

These two definitions must be taken so that no medium is possible; everything must be one or the other: substantia et accidens dividunt ens, as the Scholastics used to say. Hence their negative definitions are also valid: Substance is something not existing in another; accident is something not existing in or by itself.

### 2. Explanation

a. The preposition “in” has a multiplicity of meanings or implications, as any complete dictionary shows. In the

two definitions given, however, it does not refer to place (as when we say: the fish are in the bowl, the ship is in drydock, the museum is in the city) nor to time (as when we say: in 1946) nor to what St. Paul meant when he said that we live and move and have our being in God (Acts 17, 28). It does not refer to the "one in many" of the universals.

But as far as the definition of accident goes, the preposition "in" means that the accident is a modification, a qualification, a mark of something else—such as the heat of the water, the roundness of the billiard ball, the whiteness of silver. And to distinguish this mode of "being in" from every other, Scholastics say that the accident *inheres* in another, and they designate the latter as the "subject of inherence." The essence of accidents therefore is inherence. Vice versa, when Scholastics say that the substance exists in itself, they mean that it does not inhere in another, that it needs no subject of inherence.

b. Substance then denotes a certain *independence*, accident a certain *dependence*. And this by their very concepts, so that the mode of being proper to substance is a positive perfection, that proper to accidents a positive imperfection. Substance may be likened to the sturdy oak, accident to the clinging vine; but the vine only adheres to the oak; it does not inhere in the oak as does the sturdiness.

c. It also follows that substance is "being" in the strict sense, and that accident is essentially inferior as a being. Scholastics go so far as to call the accident an "ens entis."

d. A word must be said about the *etymology* of substance and accident.

"Substance" comes from "sub" and "stare" and implies that it underlies and supports accidents. The scholastic definition, while not excluding this meaning, says nothing of it, so that there may be a true substance without accidents.—The etymology of "accident" ("ad" and "cadere") comes closer to its scholastic meaning.



e. Distinguish between *logical* and *ontological* accidents. One and the same thing may be both; but their definitions differ widely. The logical accident is that which happens to a being, but it is *not essential* to it; the ontological accident is that which *inheres* in something else. We now speak only of ontological accidents.

### 3. Other Definitions of Substance

a. Descartes, Spinoza, Victor Cousin: "A substance is something which needs nothing else for its existence." If the definition merely brought out the independence proper to all substances, it would be acceptable. But Descartes apparently and Spinoza certainly understood it of *complete independence*, so that no substance would need an efficient cause; then God alone would be a substance. And what would creatures be? Mere accidents of the divine Being? That would be pantheism.

b. Leibniz: "A substance is something endowed with the power of *activity*." This definition is good as far as it goes. But (a) *agere sequitur esse*; therefore the definition of substance, to express *ultimates*, should stress "being" rather than acting. (b) Leibniz really meant the power of acting immanently, that is, life; but not all substances are alive. Hence as understood by Leibniz, the definition is to be rejected.

c. Kant defined the substance as "something *permanent*." But though substance in general may be more stable than some of its accidents, yet permanence is not the ultimate of substance. For one may ask: What is it that makes a substance permanent, the accident transient?

d. According to W. Wundt, substance is something *immutable*. Also this definition is defective. All corporeal substances are subject to accidental, even to substantial changes.

## B. OBJECTIVE VALIDITY

### THESIS 26

**The scholastic concepts of “substance” and “accident” are objectively valid.**

#### 1. *Notions*

Whereas etymologically “substance” means that which underlies or supports, the Scholastics understand by it something which “*exists by or in itself*” (ens per se, ens in se), viz. so that it has no need of a subject of inherence.—An “accident,” in scholastic language, is something *existing in another* as in its subject of inherence. But against the Cartesians we mean here something which has an *entity of its own*, really distinct from the substance in which it inheres.

#### 2. *Adversaries*

a. Most English philosophers of the last two centuries claim that “substance,” as understood by Scholastics, is a figment of the mind or merely another word for a bundle of accidents.

In his Essay on Human Understanding (Book 2, ch. 23), John Locke argues thus: Our senses furnish us with many “simple ideas” (more correctly “qualities”), a certain number of which constantly go together and so are presumed to belong to one thing; and since we cannot imagine how they can subsist by themselves, *we suppose* an unknown support for them, calling it “substance.”

This explanation of “substance” was taken over by David Hume, John Stuart Mill, Alexander Bain, Julian Huxley etc. in England. Also H. Taine in France adopted Locke’s idea; so did W. Wundt, Ostwald, Paulsen etc. in Germany.<sup>1</sup>

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<sup>1</sup>Cf. *Cath. Enc.* s. v. Substance.

b. The existence of accidents *really distinct* from their substance was denied by the Cartesians (17th century); also some Scholastics of the 19th century (Palmieri, Tongiorgi) inclined toward this opinion.

*Meaning of thesis:* We do not claim that the word "substance" and "accident" cannot or should not be used in any other sense than the scholastic. The thesis is philosophical. Its purpose is to lay a solid foundation for the scholastic axiom that everything is either a substance or an accident: *substantia et accidentia dividunt ens*.

### Proof of First Part

1. (From St. Thomas, In 4 Met. Lectio 7)

If anything exists at all, substance exists.

Now something exists.

Therefore substance exists.

*Proof of Major:* Whatever is admitted to exist, exists either in itself or in another (nothing intermediate is possible). If it is said to exist in itself, it is a substance (in the scholastic sense), and the Major is proved. If it is said to exist in another, the question recurs about this other: does it exist in itself or in another? Now we cannot go on indefinitely. Ultimately, we must arrive at something that exists in itself—or nothing at all exists.

*Obj. 1.* A Catholic may reason thus: The Major may hold in the natural order; but we as Catholics believe that in the Eucharist accidents exist without a substance in which they inhere. Therefore the Major is not metaphysically certain.

*A.* The accidents in the Bl. Eucharist do not inhere in any substance, but they are miraculously preserved by God, who is a substance.

*Obj. 2.* Why can we not go on indefinitely? Why could not one accident inhere in another accident, and that in a third, and so on?

*A.* Because in that case neither the single accidents nor the whole series would have an adequate reason for their existence. For each and all are by their nature dependent, and dependence demands something independent.

2. (From *consciousness* and *memory*)

I am conscious not only of my present internal experi-

ences: thoughts, feelings, desires etc., but also of *my Ego* of which they are modifications and in which they inhere. Moreover, my memory assures me that *my same Ego* had other or similar modifications in the past.

Therefore the existence of some substances is not a mere inference (as Locke thought), but is *perceived immediately* in and with the facts of consciousness.

### 3. (From *external experience*)

Locke's argumentation concerning external experience is vitiated by incorrect observation. True it is that our external senses perceive only the accidents of bodies—either singly (e.g. color) or somehow united into “bundles” (by the “common sense”). But we do not perceive them in the abstract, without any subject; we do not merely perceive color, but *something colored*.

Therefore, as in consciousness, so in external perception, we do not add a substratum to the accidents (“simple ideas”); nor is the existence of some bodily substratum a mere inference; it is the object of *immediate perception*.<sup>1</sup>

*Cor.* Hence (a) the Scholastics rightly call substance a “*sensibile per accidens*”; for it is perceived in and with the sensible per se. (b) Also substance is somehow in the senses; and so the scholastic axiom holds: *nihil est in intellectu quod prius non fuerit in sensu*.

### 4. (Ad hominem)

Those who deny “substance” in the scholastic sense, end by elevating accidents into substances.

*Schol.* On reading through Locke's Essay and the Notes which he later appended to rectify or justify his novel views on “substance,” one cannot fail to notice that he missed an

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<sup>1</sup>This argument is most likely rejected by those who hold that our perception of the external world is only mediate.

important distinction, viz. that between substance *in general* and *specific* substances. Because we are not so sure about the latter, and because they would, in any case, have to be strictly inferred from the accidents, he concluded that the same holds with regard to substance in general. This was Locke's initial mistake. It is the error so common among modern philosophers that we know nothing unless we know it all.

### Proof of Second Part

#### 1. (Possibility)

Accidents, as understood by Scholastics, are possible if they involve no contradiction.

But accidents involve no contradiction.

Therefore they are possible.

*Proof of minor:*

a. No *direct* contradiction. "Accident," in the scholastic sense, contains only two notes: "being" (ens) and "inherence" (in alio). Now these are in no wise contradictory—unless one were to conceive "being" as "being in itself," or "inherence" as "identity," neither of which is meant in the scholastic definition.

b. No *indirect* contradiction. The main difficulty is this: How can a really distinct accident *intrinsically* modify the substance? But it all depends which of the many kinds of real distinction one supposes between accident and substance; for our purposes, the least of them suffices. Then, too, the human soul, though really distinct from the human body, intrinsically changes and modifies it; why then could not an accident intrinsically modify the substance, though really distinct from it?

• The Cartesians indeed bring forward three logical deductions which they declare inadmissible. If, they say, there were accidents really distinct from the substance, (a) the accidents would be *true* beings, that is, "beings in themselves" and so substances, (b) the term "substance" could not occur in the

*definition* of the accident, (c) no accident could be predicated of its substance.

But if one understands the scholastic doctrine rightly, he will see easily that none of these deductions is valid. As to (a) we say: *no*; the accidents would still inhere, which no substance does. As to (b) we distinguish: in recto (nominative), *yes*; in obliquo, *no*; as a matter of fact, in the definition of "accident," the word "substance" is in the ablative. As to (c) we also distinguish: in the abstract, *yes*; in the concrete, *no*. Thus you cannot say: The lawn is greenness; but you can say: the lawn is green.<sup>1</sup>

## 2. (Actuality)

a. *Knowledge* (subjectively speaking) is either something or nothing. And if it is something, it is either identical with the Ego or really distinct from it.

But (a) knowledge is *something*, something positive and a perfection; it costs labor and can be lost. (b) If it were identical with the substance of our Ego, we should always have it, and there would be neither *learning* nor *forgetting*.

Therefore knowledge is something in the Ego, yet really distinct from it—an accident really distinct from the substance in which it inheres.

In disproof of the minor one might fall back on Plato's opinion that "to learn is to remember" (Turner, Hist. p. 110), and that therefore all learning is only apparent. But this opinion (a) contradicts our every-day experience, (b) falls with Plato's theory of the pre-existence of the human soul, (c) is implicitly denied by Plato himself.

b. *Motion* (kinetic energy) is either something or nothing. And if it is something, it is either identical with the body or really distinct from it.

But (a) motion is *something*; for with it the body can produce an effect (e.g. heat) which is impossible without it. (b) If motion were identical with the body, the body would always be in motion.

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<sup>1</sup>St. Thomas explains this last objection in various places; e.g. In 7 Met. Lectio 4; Summa I qu. 85 a.5 ad 3.

Therefore motion is an accident really distinct from the body.<sup>1</sup>

c. There is a tendency among modern scientists to reduce all material phenomena to matter (material substance) and motion. This position is unacceptable. We proved that also the *sensibilia propria*, particularly *colors* and *sounds*, are not mere motions (vibrations), but exist as such. Now seeing that colors and sounds may vary while their subject (whatever it is) remains the same, they, too, are accidents really distinct from the substance in which they inhere.

The same argument for the existence of accidents may be drawn from other material qualities; e.g. sweetness, hardness etc.

d. We may add that the Cartesian denial of all accidents can scarcely be reconciled with the Catholic doctrine on the Eucharist or on grace.<sup>2</sup>

*Schol. 1.* *God* is a substance. For if anything exists in and by itself, *God* does. In fact, He exists not only in Himself, but *of* Himself, whereas no created substance exists of itself.—But in *God* there are *no accidents*. For an accident implies in its very notion an imperfection, viz. dependence; now *God* is absolutely perfect and independent. We have then at least one substance without accidents.

*Schol. 2.* Scholastics here discuss the question whether accidents must necessarily inhere or may perhaps *exist without a substance*. The reason for this discussion is that, according to Catholic teaching, in the Bl. Eucharist the accidents ("species") of bread and wine do not inhere in a substance.

Now the precise scholastic question is not if this be true. The Catholic Church has always believed it and the Council of Trent defined it; hence it is metaphysically certain, and the Scholastics accept it. But they ask themselves how much *unaided human reason* can prove.

To begin with, Scholastics do not claim to prove from *unaided reason* (a) that some accidents *do* exist without a sub-

<sup>1</sup>Cf. *Cotter*, *Cosmologia* p. 262.

<sup>2</sup>Cf. *Cath. Encycl.* s. vv. Accidents, Eucharist, Grace.

ject, nor (b) that some *can* so exist, not even (c) that such separate existence would involve *no contradiction*. They are much more cautious. Throwing the burden of proof on those who would deny such a possibility, they merely say: *No one can prove with evidence that no accident can exist without actually inhering in a substance.*

This they prove in a general way. They argue thus: To prove that no accident can possibly exist without actually inhering in a substance, one might proceed in three ways: (a) by saying that all accidents are identical with their substance, or (b) if really distinct accidents be admitted, by insisting that actual inherence is essential to all accidents, or (c) by denying that even God could keep a substanceless accident in existence. Now, the Scholastics submit, none of these three positions is evident. (a) There are accidents really distinct from their substance, as proved in the thesis. (b) There is no evident metaphysical principle according to which the influence of the substance on its accidents cannot be supplied in some other way. (c) We know too little of God's omnipotence to state categorically that He cannot, in His own way, supply this influence.

After this general argument, the Scholastics can sit back and wait for the arguments of their opponents, mainly the Cartesians. However, since these have marshalled several arguments, the Scholastics are obliged to answer them. The following two objections are mainly urged: An accident existing actually without a substance would (a) *eo ipso* become a substance, or (b) inhere in God. But the Scholastics deny both deductions. The accident would always retain the *exigency* to inhere in a substance, which no substance has. Nor would such an accident inhere in God; it would merely be supported by God in some unknown way. Others object that it is absurd to say that knowledge can exist without a knower. But the answer to this is twofold: (a) The Scholastics do not say that all accidents can exist without a subject. (b) Knowledge cannot be without a knower, not because it is an accident, but because it is such an accident, *viz.* an immanent activity.

Therefore, since merely the exigency to be in another, not actual inherence, is essential to the accident, Scholastics define the accident more accurately as "something which *demands* being in another" (*ens cui competit esse in alio*).<sup>1</sup>

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<sup>1</sup>Is something analogous possible with "substance"? May a substance be a true substance and yet not actually exist in itself? Since the impossibility is not evident, the Scholastics define "substance" analogously as "something with the natural exigency to exist in itself" (*ens cui competit esse in se*).



## C. AXIOMS

1. Whatever exists, is either a substance or an accident.
2. Though substances may be subjects of contraries, they themselves are not contraries.
3. "More or less" cannot be said of a substance (*substantia non suscipit magis et minus*).
4. Accident is not something, but dependent on something (*ens entis*).
5. For an accident to be is to inhere (*accidentis esse est inesse*). This is so naturally speaking; but exceptions are not positively excluded. See Schol. 2.
6. One accident does not inhere in another (*accidens accidenti non accidit*). That is to say, no accident has another for its *ultimate* subject. But Scholastics commonly say that qualities inhere proximately in the quantity, and quantity in the substance of the body.
7. Accidents do not migrate (*accidens non migrat de subiecto in subiectum*). We often say indeed that e.g. a body transmits or communicates its motion to another body; but we only mean that body A can produce motion in body B; the motion of body B is numerically distinct from that of body A, just as A and B themselves.

## D. DIVISIONS

## 1. Substance

1. *Created and uncreated substance*

A created substance does not exist of itself, the uncreated substance exists of itself. God alone is an uncreated substance.<sup>1</sup>

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<sup>1</sup>The concept of "substance" as referring to both God and creatures is transcendental and analogous (like "being"); but as referring to creatures only it is predicamental and univocal.

This division is denied by atheists and pantheists. The former do not speak of created substances, because that would be too patently absurd without a Creator; but they make the world self-existent. The latter identify God and the creature, making of the creature a particular and finite mode of the Infinite.

The leading pantheist of modern times is Spinoza, who made God the equivalent of nature.

## 2. *Primary and secondary substance*

The *individual* is called by Scholastics primary substance (*substantia prima*), the *universal* (species or genus) secondary substance (*substantia secunda*).

This division has a history. Plato had called the universal the primary substance, the individual secondary; for in Plato's system, the individual was only a pale imitation of the "heavenly" universal, the first being. Aristotle, more realistic than his teacher, reversed the order. And the Scholastics followed him. Rightly so; for that substance is preferably called first or primary which exists most of all in itself. Now the individual exists in itself more than does the universal. For the individual is (a) a real being, existing independently of the mind; (b) it is not in another like the accident; (c) it cannot be predicated of another. The universal, on the contrary, though not in another like the accident, yet (a) is as such only in the mind (logical being), and (b) can be predicated of another (e.g. Peter is a man). Therefore, between the two, the universal is much less in itself than is the individual.

## 3. *Material and spiritual substance*

A material substance is one which either is matter or depends intrinsically on matter. What is matter, is also called "body" or "bodily"; what is not matter, but yet depends intrinsically on matter, is not called "body" or "bodily," but "material."—A spiritual or immaterial substance (spirit) is one which neither is matter nor depends intrinsically on matter.

#### 4. *Compound and simple substance*

A substance is compound or simple according as it consists or does not consist of *substantial parts* really distinct from each other. A substantial part is a substance whose nature it is to constitute with another substance (or other substances) an unum per se. We may compare it to the parlor, which with other rooms constitutes the residence (though this is an unum per accidens).

Observe: (a) "Simple" is "indivisible." A simple substance is indivisible into substantial parts, though it might be divisible in some other way. (b) "Simple" here is not the same as "spiritual." (c) Also *chemists* use these terms, but in a different sense. The elements or atoms are called chemically simple; a compound or molecule is a chemical unit containing different elements.

#### 5. *Complete and incomplete substance*

A substance is incomplete or complete according as it is or is not, of its nature, meant to be a substantial part.

*Objective validity:* It is generally agreed that man is a complete, but compound substance, consisting of soul and body, which are incomplete and simple by themselves. This will be proved more explicitly in psychology. However, here we must show that the concept "*incomplete substance*" does not involve a contradiction.

Now this concept contains two notes: "being in itself" and "part." But one and the same thing may be both: "being in itself" may mean either as a whole or as a part; and "being a part" does not necessarily make a thing an accident.—Moreover, an incomplete substance must not be conceived as "partly a substance" nor as "half substance and half accident." It is a true substance, though only analogously to a complete substance.<sup>1</sup>

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<sup>1</sup>Note that not every complete substance must be made up of incomplete substances. A complete substance may be simple or compound.

## 2. Accidents

The concept of "accident" is not transcendental, because not every being can have accidents. It is only predicamental. But unlike predicamental substance, "accident" is not a genus and is not predicated univocally of its immediate inferiors. They all modify the substance, but the modifications are not of the same nature. Hence Aristotle enumerated *nine genera* of accidents. This then would be the proper division. Still, some genera have something in common. Thus accidents may be (a) material or spiritual, according as their subject is material or spiritual; they may be (b) permanent or transient; (c) they may be common (i.e. to several classes of substances) or proper (i.e. restricted to one class) etc.

a. *Intrinsic* accidents are the first three genera: quantity, quality and relation. They are something real modifying the substance in which they inhere, and they are chiefly meant by the scholastic definition of "accident." They may be subdivided into *absolute* accidents (quantity and quality), which point to nothing beyond them, and *relative* accidents (relations), which point beyond themselves.—The last six categories are called *extrinsic* accidents.

b. An accident is called *physical* or *metaphysical* according as the distinction between it and its subject is real or only logical. Metaphysical accidents therefore are really identical with their subject. The existence of physical accidents is proved in the thesis.

## 3. Suarezian Modes

The concept of "mode" was introduced into philosophy by Suarez. Though a mode is generally an accident, it is not necessarily so; Suarez also speaks of substantial modes (e.g. the union between body and soul). But in general, a mode is defined as the *last and actual determination* of an indifferent subject. Thus a body, complete with all its accidents, may be here or there; what determines it to be here and not there? Suarez answers: a mode.

Scholastics dispute very much about this theory of modes.

Two things are not clear: Are these modes something or nothing? How do they help in the solution of metaphysical problems on account of which they are postulated?

#### 4. Substantial and Accidental Changes

A substantial change is one where one substance changes into another; an accidental change is one in which an accident of a substance changes into another.

That things in this world of ours change constantly, is a fact of daily observation. This implies at least a change of extrinsic accidents (e.g. that due to locomotion). But two questions are hotly disputed among modern philosophers: (a) Can the *intrinsic accidents* of a substance change? (b) Can one *substance* change into another?

a. To answer the first question, let us go back to the arguments by which we proved the actuality of intrinsic accidents. If knowledge, motion etc. are intrinsic accidents, then accidental changes do occur; for we learn and forget; the motion of the same body may be fast or slow etc.

b. As to substantial changes, even Scholastics are not agreed today. Those who deny incomplete substances, must deny substantial changes; for a substantial change implies that a complete substance loses a substantial part, receiving therefor another. However, it is better to reserve this problem for cosmology.

## Notions Related to Substance

There are two pairs of scholastic concepts closely related to that of substance: nature and essence, individual and person. The first pair, nature and essence, may, in a wider sense, be also applied to accidents, but in the strict sense they are really identical with substance, though they represent different aspects of it.

### 1. NATURE

1. "Nature" is defined by Scholastics as the ultimate intrinsic principle of the *proper activities* of a being. Thus since "rational animal" is the nature of man, it explains why man eats, sleeps, sees, thinks etc.

2. That this concept of "nature" is *objectively valid*, can easily be shown. Certainly the various activities proper to any being that is an unum per se, must flow from some intrinsic principle, and there must be such an ultimate principle.

3. Distinct from nature are the *faculties*. These are the proximate intrinsic principles or powers through which nature acts. Thus man sees with his eyes, walks with his feet, speaks with his tongue.<sup>1</sup>

Hence Scholastics distinguish various principles in the genesis of any action: *principium quod* is the whole being which acts or is going to act; *principium quo ultimum* is its nature; *principium quo remotum* is the faculty as such (quiescent, as it were); *principium quo proximum* is the faculty all ready to act or acting.<sup>2</sup>

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<sup>1</sup>Are faculties real and do they explain anything? As we saw (supra p. 148), modern psychologists would say no to both questions. But if the principle of causality holds, both must be answered in the affirmative; for without real faculties our most specific actions would be without adequate cause. But Scholastics dispute among themselves whether faculties are really distinct from nature or only logically, hence whether they are physical or metaphysical accidents.

<sup>2</sup>No convenient translation of these scholastic terms is available

## 2. ESSENCE

We have already spoken of "essence" in its widest sense, in which it coincides with "being." But, as a rule, the term is used so as to apply primarily to creatures, and only analogously to God.<sup>1</sup>

1. Essence, in the strict sense, is the ultimate intrinsic principle of the *properties* of an individual; it is that in the individual from which all its properties ultimately flow.

Scholastics also used to call the essence "*quiddity*" (whatness), because it answers the question: *what* is the thing—in opposition to other questions: how, where, when, whether etc. is the thing. The term is still current in English.—Another scholastic synonym for essence is "*ratio*" (ultimate reason), because through the essence we *understand* the thing (in its last intrinsic causes).

2. The concept of "essence" has *objective validity*. For all things have some intrinsic properties, so that various predicates can be given to them. Now these properties either are the essence itself or they flow from the essence; in either case, an essence in the strict sense must be admitted.

3. *Our knowledge of essences*

Do we know or can we know the essences of things?

Many modern philosophers answer with a categorical no. (a) John Locke (Essay Bk. 3 ch. 3 s. 15-20) distinguished between the "nominal" and the "real" essences of things. The "real" essence, according to him, is the real root and foundation of all the qualities of a thing, and that we do not and cannot know; the "nominal" essence is merely an artificial classification of things according to their qualities, but gives us no insight into the "real" essence. (b) Kant allowed that we know "phenomena," the appearances of

<sup>1</sup>Also chemists speak of "essences," "essential oils" etc., but their meaning is entirely different from ours.

things, but denied that we can know the "noumena," what things really are. (c) Not much different is the position of positivists, sensists, associationists etc., who allow only sense cognition; for knowledge of the essences of things transcends all mere sense cognition.

Nevertheless we maintain that we can know, to some extent, the essences of things. But we must distinguish:

a. We can and do know the essences of all things to some extent inasmuch as we know what is "*being*"; for "*being*" is the most fundamental and essential note of all things.

b. We also know some of the *generic* essences of things. We know to some extent what is the essence of material and immaterial things, also what are plants and animals and inorganic things.

c. We know the complete essence of *man*, viz. rational animal. We also know the complete essences of *artificial* things (e.g. of a chair, a book, a bicycle), of *mathematical* figures (e.g. of a triangle) and of many *accidents* (e.g. virtues and vices).

d. But when we come to *specific natural substances* (the lion, the lily, iron), our actual knowledge is very defective. There is no a priori reason why we should not be able to know their complete essences; a closer cooperation between the natural sciences and a sound philosophy would remedy the defect.<sup>1</sup>

#### 4. *Divisions of essence*

a. An essence is *complete* or *incomplete* according as it contains the whole essence (i.e. the ultimate intrinsic principle of all the properties of a thing) or only part of it.

b. Essences are divided into *specific* and *generic* according as they contain the essence of only one class of beings

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<sup>1</sup>Cf. Cotter, *Natural Species* p. 118-131.



or of several. The specific essence is a complete essence, the generic is incomplete.<sup>1</sup>

c. Essences are sometimes divided into *physical* and *metaphysical*.

But while this division is very common among Scholastics, it is not understood by all in the same way. Some mean by physical essence the essence as it actually exists, by metaphysical as it is possible or in the abstract. Others interpret the division as the essence with or without its properties. But since, according to all, essence and definition are correlates, it seems preferable to say: The physical essence (like the physical definition) states the *really distinct* substantial parts (e.g. body and soul in man); the metaphysical essence (like the metaphysical definition) states the abstract notes which are only *logically distinct* (e.g. animal and rational in man).<sup>2</sup>

## 5. *Properties of essences*

a. Essences are *unchangeable*.

The question is not whether an essence can acquire or lose existence, nor whether an existing individual can change essentially, but whether *in the abstract* an essence can lose or acquire a note without forfeiting its identity. Understood thus, the question evidently demands a negative answer. Just as a square is no longer a square if you add or take away an angle or a side—so an essence would no longer be itself if one of its notes were taken away or a new one added.

b. Essences are *necessary* and *eternal*.

The reason for both is that essences as such merely depend on the compatibility or sociability of their notes; they

<sup>1</sup>All creatures have their specific (complete) essence.

<sup>2</sup>When this division is applied to simple beings (e.g. God), it is understood analogously.

do not depend on anybody's free will or on time. Now as the notes themselves are necessary and eternal, so also is their compatibility or sociability.

Some Thomists claim that, unless the real distinction between essence and existence in creatures (*supra* p. 301-2) is accepted, actually existing creatures would contain nothing necessary. Non-Thomists deny the inference.<sup>1</sup>

Are then the essences of things God or equal to God? No, God *exists* necessarily and from all eternity; no essence of a creature demands existence. Moreover, whatever necessity and eternity the essences of creatures have, they have because they are possible imitations of God's essence.

### 3. INDIVIDUAL

#### 1. Definition

As we saw above, the word "individual" has two distinct meanings: one in which it is generally used as an adjective and is opposed to "universal"; the other in which it signifies a *complete singular substance*. We take it now in this second sense.

Inasmuch as the individual is *singular*, it is opposed to the universal; it is Aristotle's "primary substance." Being *complete*, it not only lacks nothing of what is necessary for existence (thus being opposed to incomplete substances), but is also divided from all other individuals (if there are such).

Scholastics call the individual "suppositum" or "hypóstasis," and because the individual is the "principium quod" of all activity, they lay down the axiom: *Actiones sunt suppositorum*, i.e. all activity belongs to and is predicated of the individual; it is not so much my feet that walk, but *I* walk.

The abstract noun is, of course, *individuality*, but the English term implies more than that (see dictionary).<sup>2</sup>

<sup>1</sup>Cf. Thiel, in *Divus Thomas* 1948 p. 50.

<sup>2</sup>The Scholastics further inquire what constitutes individuality (in

## 2. Objective Validity

To deny the existence of individuals as defined, would be absurd. Thus every human being is a complete singular substance, and that suffices for proof.

However, one may inquire with regard to the other realms of nature. Already with animals and plants one may occasionally doubt where are the individuals (e.g. with corals), though, as a rule, the single individuals are sufficiently distinct (e.g. horses, pigeons, dogs). The case becomes more complicated when we descend into the inorganic world. The more common opinion among modern Scholastics is that the molecules are the ultimate individuals; atoms, electrons, neutrons etc. are integral parts of molecules and unable to exist as complete units. But it must be admitted that the individuality of molecules is the weakest of all; in fact, individuality becomes less marked in nature the farther we descend in the scale of being.<sup>1</sup>

## 3. Independence

Every substance, more so every complete substance or individual, is something independent. It stands on its own feet, so to speak.

Still, the independence of *created* individuals must not be exaggerated. Not only do they depend on God as their ultimate efficient and final cause, but every purely *material* individual in this world is a part of that admirable dynamic order of the universe. There is mutual external dependence; all are meant to give and take, to act and react. It is impossible to understand them fully except in their relation to their surroundings.<sup>2</sup>

## 4. PERSON

1. Some individuals in this world are rational, others are not. The *rational* individual is called a person, and therefore every human being is a person. Boethius' definition of

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the scholastic sense), what distinguishes one individual from another etc. Cf. *Cath. Enc.* s. v. Individual.

<sup>1</sup>Cf. *Cotter*, *Natural Species* p. 107-117.

<sup>2</sup>This aspect of all creation below man is stressed in the modern sciences of ecology, biosphere etc.

"person" is famous, but it does not differ from ours: *Persona est naturae rationalis individua substantia*.

The abstract term is, of course, *personality*, i.e. that which makes a person a person, but modern usage hardly ever gives it that meaning (cf. dict.).

2. The person is the *highest* (most perfect) kind of individual. For an individual, being a substance, is the more perfect the more it is in itself and by itself. Now rational beings are this more than non-rational beings. They are independent of other creatures in their ultimate end; they are free in some of their most important activities; they are conscious of their independence and freedom. No non-rational individual can boast of like privileges.

But again, the independence of created persons must not be overrated. Not only are they dependent on God, but being *rational*, they depend on the outer world for primitive ideas, and being *social*, they are bound to subordinate some of their actions to the common good.

*Individualism* often designates an exaggeration of this independence in the social order. The individualist forgets that he is part of a society (family, church, nation) which has its own rights and with which he is bound to cooperate as a member. In politics, individualism or liberalism is the theory that the state is merely the sum of individuals, not a natural whole or unit. It was the keynote of Rousseau's theories and of the French Revolution.

3. Many modern philosophers (John Locke, W. James etc.) would make actual *consciousness* the root or test or definition of human personality. But if this were so, we should not be persons while we are asleep—a position that would lead to grave moral and legal consequences. We admit, however, that consciousness *manifests* to us our own personality, and, together with memory, the identity of our person through the weeks and months and years.<sup>1</sup>

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<sup>1</sup>Cf. Coffey, *Ontology* p. 276-284; *Cath. Enc.* s. v. Personality.

4. Scholastics had a further problem to consider in connection with "person." For, as they joined faith with reason, they were up against two of the deepest mysteries of faith: *Trinity* and *Incarnation*. These two mysteries first of all obliged them to make a *distinction* between complete substance (or complete nature) and person. For the mystery of the Trinity, known only through revelation, consists in this that in God there are three Persons who have the same (numerically) divine nature complete in every respect. And again, the mystery of the Incarnation, also known through revelation, consists in this that in Christ there is one (divine) Person, but two complete natures (the human and the divine). If there were no distinction at all between a complete rational nature and a person, these two mysteries would involve a glaring contradiction. But God cannot reveal as true things that contain contradictions.

Looking then at the two concepts of "rational nature" and "person" from this higher viewpoint, the Scholastics inserted in the definition of "person" the note of *incommunicability*. A person is a complete, rational and incommunicable substance.

From this it follows that (a) the divine nature as such is not a person, because it is communicated to three Persons: the Father, the Son and the Holy Ghost; it also follows (b) that the human nature of Christ is not a (human) person, because it was assumed by the second divine Person; Christ is a divine Person only.<sup>1</sup>

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<sup>1</sup>Theologians further inquire (a) what kind of distinction there is between nature and person, (b) what precisely is this incommunicability that constitutes the person as such.

# Relation

## 1. Definition

In English, the most common acceptation of a relation or relative is a person connected with us by birth or marriage. But the word may also be taken in the abstract (more like relationship). In this sense, relation is a primitive concept, which does not admit of definition proper; but it may be clarified by saying that it means a reference or respect of one thing (or person) to another or others; e.g. the relation between father and son, between two cars of the same make, between two lines of the same length etc.

Philosophically, a thing related to another in any way is called a *relatum* or *relative*, and is opposed to an *absolute*, which is the thing itself without its relation to another. Thus the father is a relative if considered with regard to his son; he is an absolute if merely taken as a man.

Moreover, every relation involves three elements: two *correlates* or “extremes,” of which one is the *subject* or that which is referred to another, and the other the *term* or that to which the subject is referred; the *foundation* (basis, reason) is that on account of which the subject is referred to the term.

Lastly, *correlates imply one another*, that is, the subject is known, explained and defined by the term, and vice versa. Thus the father is known as such, explained and defined by his connection with the son.

## 2. Divisions

There is an almost infinite number and variety of relations between things (and persons). Scholastics have classified them as follows:

a. Predicamental and transcendental relation

A *predicamental* relation is an accident whose whole being consists in referring. It has then a double nature, as it were: as an accident it inheres, as a relation it refers. The Scholastics expressed the peculiar character of this accident by distinguishing between the "esse in" and the "esse ad" of a predicamental relation. But these are merely two aspects of the same thing.

The *transcendental* relation is an absolute which, however, also is related to something else. It is not a new accident, but the thing itself, though only inasmuch as it has reference to another thing. Such is the relation of the human soul to its body; it is not something added to the soul, but is contained in its very essence; without it the human soul would be a pure spirit.

Predicamental relations are so called because they constitute a distinct category (predicament) of accidents; they are found only in creatures. Transcendental relations are so called because they are common to all beings: God and the creatures, substances and accidents. But it is not always easy to say whether a definite relation should be classed as predicamental or transcendental.<sup>1</sup>

b. Real and logical relation

A relation is *real* if it exists independently of the operation of the mind; thus there is a relationship between father and son whether anyone thinks of it or not; thought does not make it. A relation is *logical* if it depends on the operation of the mind; thus the relation between a genus and its species can only exist objectively in the mind.

For a predicamental relation to be real, Scholastics require two conditions: (a) the two correlates must exist and be really distinct from each other; (b) the foundation must

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<sup>1</sup>Cf. Coffey, *Ontology* p. 347.

exist in both and be really distinct from the substances of the two correlates. If either condition is lacking, Scholastics call the relation logical, because it is somehow dependent on the operation of the mind.

c. Mutual and non-mutual relation

A relation is *mutual* if it is real or logical in both extremes. It is sometimes denominated by the same word (e.g. each of two white walls is called similar), sometimes by different names (e.g. fatherhood and sonship). A relation is *non-mutual* (mixed) if it is real in one extreme, logical in the other.

The relation between *God and the creature* is non-mutual; it is real enough on the part of the creature, which is wholly dependent on God; but it does not make God depend in any way on the creature.

### 3. Objective Validity

The Scholastics here discuss three questions, of which the first is the most fundamental: Are there *real relations*? Or are all relations the product of our mind? A further question is: How far are predicamental relations real, or (more pointedly) what is the *distinction* between a predicamental relation and its foundation? Is the relation a new entity or identical with the foundation? The third question concerns the *term* of a relation: In what way does it belong to the relation: as part of the essence or as connoted?

a. According to Kant, relation is a subjective category of the human mind; we do and must conceive things as related, but we do not know if anything corresponds to our conceptions.—According to John Locke, only absolutes exist. But because some absolutes coexist, our mind, comparing them, clothes them with various relations.

Both philosophers fly in the face of common sense. Whether anyone thinks of them or not, there are numerous relationships, predicamental and transcendental, between



things, as is clear from the examples given under definition and division.

b. The second question is a bit more intricate, and there is disagreement among Scholastics.

Thomists claim that the real predicamental relation is a real entity really distinct from its foundation. They say that whenever two correlates begin to exist, a new entity arises in addition to the correlates (subject and term with their foundations); thus two white walls would not be similar except after and by this new entity.

Suarez and his school, however, do not accept this solution of the question. They argue that no efficient cause can be assigned for the birth of this new entity. They also quote the axiom "*entia non sunt multiplicanda sine necessitate*" and say that everything can be explained satisfactorily if the real predicamental relation is only *logically distinct* from its foundation.

c. The third question is highly philosophical and no satisfactory answer has yet been given.

That a relation is impossible without a term, is common sense; without a term, the relative would not differ from the absolute. But the precise question is this: Is the term an essential and intrinsic part of the relation—or is the whole relation in the subject (with its foundation, of course), so that the term is merely connoted extrinsically? Some Scholastics favor the first alternative, others the second.<sup>1</sup>

#### 4. Relativity of Knowledge

This is a modern theory of knowledge, according to which "we can know only the relative," not the absolute. However, this formula may be taken in different ways.

a. Positivists (Aug. Comte etc.) mean by it that we must be content with a knowledge of the positive facts of sense

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<sup>1</sup>The dispute also affects the right understanding of the definition of relation. When the *foundation* is put down as an essential element of a relation, do we mean the foundation in both correlates or in the subject alone?

and their relations. They mean to rule out all knowledge of God and suprasensible things.

b. English philosophers (Hobbes, Locke, Mill, Bain) mean by it that we can know only the changing or transitional, not the absolute. Some of them go so far as to maintain that our mind can know only relations, and that the relations which it does know, it creates for itself.

c. According to Kant, our mind can only know what is related to it, what is present to it, what is in it, not what is apart or distinct from it. In other words, the mind can only know "phenomena," not "noumena."

All three theories have been refuted in epistemology under the corresponding chapters.

## PART 4

### CAUSES OF BEING

This last chapter of ontology is of extreme importance. The whole world, far from being static like a run-down clock, is a veritable dynamo; there is action and reaction everywhere, and these involve cause and effect. Moreover both science and philosophy are defined by the Scholastics as knowledge through causes. And though modern philosophy and the sciences mostly dispense with the scholastic concepts of cause and effect, scholastic philosophy explains all things through the fourfold scheme of causes introduced by Aristotle.

# Notions and Principles

## 1. DEFINITIONS

In order to gain a clear concept of cause (and effect) as understood by the Scholastics, we shall do well to parallel it at the outset with four other concepts: principle and reason, condition and occasion. While the first two are of the same order as cause, though more general, the last two differ essentially from cause. We shall therefore place the concept of cause in the middle. At the end we shall add a few words on "priority," which is involved in the relation between cause and effect.

### 1. Principle

Two definitions of "principle" are current among Scholastics. According to St. Thomas, a principle is that from which something proceeds or springs (*id a quo aliquid procedit quocunque modo*). Aristotle's definition at once indicates its threefold division: that through which something is or becomes or is known. For there are principles of being, of becoming and of knowing; the first two are *real* principles, the third *logical* and therefore propositions (major premises).

There is no English word for that which proceeds or springs from something; it might perhaps be called the "resultant"; the Scholastics called it "*principiatum*." Its connection with the principle is one of origin or procession.

### 2. Reason

The reason for a thing is that through which it is understood. To give the reason or reasons for anything is to explain it, to make it intelligible.

At the end of this chapter we shall discuss three of the widest philosophical principles, all based on this concept of "reason."

### 3. Cause and Effect

A cause, in scholastic language, is a (real) principle which by a *positive influence* determines something else to exist. Its correlate, effect, is that which exists through the positive influence of another. *Causality* is the positive influence itself by which a cause gives existence to the effect.

### 4. Condition

A condition (prerequisite), as distinct from cause, is something that is required for the operation of the cause, but exerts no positive influence on the effect; e.g. light for writing. An *indispensable* condition (*condicio sine qua non*) is one for which there is no substitute.

Therefore the effect *depends* on both the cause and the condition, but not in the same manner. It depends on the cause intrinsically, on a condition extrinsically. The effect varies if the cause varies; not so if a condition varies. Hence we argue back from effect to cause, but not to a mere condition. Thus handwriting varies with a steady or shaky hand, with a fine or blunt pen, with black or blue or red ink; but it will not indicate whether it was done by candle light or sun light or electric light.

### 5. Occasion

An occasion is any circumstance or set of circumstances favorable to the action of a free cause; e.g. darkness is an occasion for committing theft; bad companions are an occasion of sin.

The occasion differs from both cause and condition in that the effect does not depend on it. Nevertheless, the occasion solicits and aids the free agent to act, and thus has an indirect influence on the effect.

## 6. Priority

Prior (antecedent, anterior) is that which precedes something else, or that after which there is something else. Its opposite is "posterior." But "prior" is not the same as "first." Thus March is prior to April, but is not the first month of the year. Nor is "posterior" the same as "last."

Scholastics distinguish priority of time, of nature, of reason. *Prior in time* (earlier) is that which exists before something else. *Prior by nature* is that on which something else depends for its existence. *Prior in reason* is that which makes a thing intelligible. The first two priorities are real, the last logical; what is logically prior, may be posterior in time or by nature (see p. 109).

## 2. DIVISION OF CAUSES

1. After the earlier attempts of Greek philosophers (*supra* p. 6), Aristotle divided all causes into *four genera*: efficient and final, material and formal. An *efficient* cause is that which by its activity gives existence to something or brings about a change. A *final* cause (purpose, object, aim) is that for the sake of which the efficient cause acts. A *material* cause is that out of which anything is made, or that in which the change is made. A *formal* cause (form) is that which makes the thing to be of this kind.

The four causes find an apt illustration in the origin of a statue, e.g. of George Washington. The sculptor himself is the efficient cause through his chiseling; the motive from which he works (money, fame, esthetic pleasure etc.) is the final cause. The marble out of which the statue is made, is the matter or material cause; the figure of the hero, which the sculptor produces in the marble, is the formal cause. As is clear from this example, all four causes cooperate positively in bringing about the existence of the statue, and therefore are its *real principles*; but the first two are *extrinsic* to the effect (the statue), being adequately distinct from it; the last two are *intrinsic* to it, constituting the effect itself; hence they are called its "constitutive principles" or "elements."

2. This division is *adequate*. The four causes answer all the questions that can be put in explanation of the origin of an effect: who, why, what, out of what? They make the change intelligible.

Some would add a fifth genus: the *exemplary* cause, i.e. the ideal or model or pattern in the mind of the sculptor, according to which he executed the statue. But this may be reduced to one or the other of Aristotle's four; it may be regarded as an (extrinsic) formal cause,<sup>1</sup> or as part of the equipment of the efficient cause (like his mallet), or as the final cause (*finis operis*) inasmuch as it represents the good to be realized by the statue itself (e.g. honoring George Washington).

3. The fourfold division is *analogous* not univocal. Though all four causes cooperate positively toward the effect, their *causality* differs considerably. The causality of the efficient cause (the act of chiseling) consists in action; the causality of the final cause is the influence of some motive on the mind of the efficient cause (money, honoring a hero); this latter influence is designated as "*motio metaphorica*" (untranslated). The causality of the material and the formal cause differs again from both. It consists in their union or mutual communion, but so that the matter sustains the form, whereas the form shapes the matter. From another angle we may say: the material cause is the (intrinsic) determinable element, the formal cause is the (intrinsic) determining element.

4. A cause may be proximate (immediate) or intermediary (remote) or ultimate (last). The *proximate* cause produces the effect directly, that is, without first producing something else; the *intermediate* cause is one which is itself the effect of another cause; the *ultimate* cause is that beyond which there is no other cause. Thus—to take an example of efficient causality—when the hunter kills a deer, the

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<sup>1</sup>The exemplary cause is therefore defined as "the form which the agent strives to *imitate* by his actions".

proximate cause of the death of the deer is the bullet; the intermediate cause is the gun; the ultimate cause is the hunter. Examples of final causality will appear in chap. 3.

Since much more will be said in cosmology about the material and the formal cause of (natural) bodies, we now take up the efficient and the final cause. The next three theses are perhaps the most hotly disputed in modern philosophy.

Prior to this, however, we must discuss three (logical) principles, which are of the widest range.

### 3. PRINCIPLES

1. The principle of *sufficient reason*: Everything has a sufficient reason (quidquid est, habet rationem sui sufficientem), or everything is intelligible.

But the principle must not be extended to mean that all reality, or even one single thing, is adequately intelligible to our finite minds.

2. The second principle is known as "*Ockam's razor*," but it exists only in Latin: *Entia non sunt multiplicanda sine necessitate*, or as Ockam himself put it: *Frustra fit per plura quod fieri potest per pauciora*. The principle can easily be misunderstood and is often misquoted by those who should know better. It is a principle of *method*, and its sole legitimate meaning is this: In explaining a thing or looking for its reasons (principles, causes), we must not assume more entities than are adequate to account for it. It applies therefore to the making of hypotheses, to the introduction of too many real distinctions etc.<sup>1</sup>

The truth of the principle rests on the preceding one. To explain a phenomenon by two causes or to postulate

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<sup>1</sup>Suarez urged it against the many real distinctions which Thomists had introduced. Cf. *Glenn*, *Intro.* p. 115-6,



two distinct entities when one suffices, is without sufficient reason.

Note that this principle is not the same as that of *simplicity*, called by Leibniz "principle of least action" and by Hamilton "law of economy or parsimony." The principle of simplicity states that the *ways of nature* are the simplest, and that therefore simplicity is a sign of truth (*simplex veri indicium*). Which is no doubt true in itself, seeing that God is the author of nature; but for us it is generally impossible to say which ways are the simplest. Hence if one wishes to use it, he should do so with circumspection.

3. A third principle, related to the preceding and likewise a principle of method, is this: *Unlimited regress is impossible* (*processus or regressus in infinitum repugnat*). In arguing backward or assigning successive reasons for something (e.g. A is due to B, B to C etc.), we must come to one that is ultimately and adequately sufficient; without it the series would hang in the air.

## Efficient Cause

## 1. Reality of Efficient Cause

## THESIS 27

**Not only is the scholastic concept of efficient cause objectively valid, but we can also know efficient causes.**

1. The Scholastics define *efficient cause* as that which by its *activity* gives existence to something or brings about a change. A concept is *objectively valid* if something corresponds to it independently of the operation of the mind.

Against modern conceptions, the precise point to be established is that the change is brought about by the *positive influence* of the efficient cause, more particularly by its *activity*. We must show that the efficient cause really *produces* the effect, and is not merely an innocent bystander. Therefore, the point to be proved is the objective validity of *efficient causality*. Is there such a thing as efficient causality? Or is it a figment of our mind? Can we clearly discern efficient causality from mere succession, condition and occasion?

2. Most modern (especially English-speaking) philosophers deny either that there are such things as efficient causes, or that our idea of efficient cause is derived from experience, or that we can know efficient causality. In particular: John *Locke*, while retaining the scholastic definition of efficient cause, denied its objective validity.—Immanuel *Kant* regarded causality as a category of experience, and cause as a form of the understanding.

Since everybody speaks of the causes of things, meaning primarily efficient causes, some philosophers tried to evade the issue by *re-defining* cause in accordance with their

philosophies. For *Hobbes*, a cause was "the aggregate of all the accidents both of the agents how many soever they be, and of the patient, put together; which when they are all supposed to be present, it cannot be understood but that the effect is produced at the same instant; and if any of them be wanting, it cannot be understood but that the effect is not produced."<sup>1</sup> In the same sense, *J. St. Mill* defined cause more briefly as the sum-total of the conditions antecedent to and necessary for the effect. This is practically the definition of *positivists* (Aug. Comte, H. Taine, W. James).

David *Hume* defined cause as invariable succession.

Mill's definition is generally assumed today in *scientific* works. And since the traditional concept of "science" supposes the scholastic concept of "cause," that, too, has been given another meaning. Science now is the explanation of a fact through its *antecedents*, no distinction being made between true causes on the one hand, and conditions or mere antecedents on the other. However, this procedure may be tolerated in the sciences themselves, since the distinction between cause and other antecedents there is generally irrelevant.

### Proof of Thesis

1. The thesis corresponds with *common sense*. We all distinguish between things that act upon others and so produce a change in them (e.g. the sculptor and the marble), and things that are mere antecedents (e.g. opening the door to the studio) or prerequisites (e.g. sharpening his chisel) or attending circumstances of an effect (e.g. lookers-on).

2. *Absurdities* are involved in the denial of efficient causality. If there were no efficient causes, everything that now begins to exist (a) would be inexplicable, nay (b) would be of itself (like God). For (a) there would be no reason for the thing beginning to exist now and not from all eternity; (b) to be without an efficient cause means to be of itself.

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<sup>1</sup>A good example of a bad definition.

Hume's definition has been ridiculed often enough. Rightly so. We clearly distinguish invariable succession (like day and night or the phases of the moon) and the relation of cause to effect.

3. We are conscious that we ourselves are not mere conditions or occasions of our own *deliberate resolutions* and the actions resulting therefrom, but that we exert a positive influence on them. This may not be so plain in the routine actions of the day, but it becomes evident enough when I have to make an *effort*. I am most conscious of it when I resolve to study rather than to play hockey, when I resolve to speak kindly to one who has just insulted me, when I resolve to get up and go to Mass though I feel very much like staying in bed.

Therefore, efficient causality, an active influence of mine by which a change is brought about, is a fact of (internal) experience.

4. True it is that *external experience* does not let us see the positive influence of cause on effect; true it is also that we are sometimes at a loss to decide which are true causes of an effect and which mere antecedents. But the same absurdities would follow as indicated in the second argument if one 'were to say that bodies do not act as efficient causes on one another.

**The principle of causality as understood by Scholastics is analytic and absolutely certain.**

1. As understood by the Scholastics, the *principle of causality* is a proposition (judgment) which enunciates the necessity and universality of efficient causality whenever there is a change or something new comes into existence. It is a principle of *knowing*, not of being or becoming (supra p. 106-7, 391).

It has been formulated in various ways: "Nothing happens without an efficient cause" (*nihil fit sine causa*).<sup>1</sup> "Quidquid movetur, ab alio movetur," or "nothing changes except through outside influence." "Whatever has a beginning (or begins to exist), has an efficient cause." "Whatever exists contingently (i.e. not of necessity), needs an efficient cause for its existence." Though the last formula is the best and most comprehensive, yet, understood rightly, they are all acceptable and used by the Scholastics. But the beginner may find the first two or three easier to grasp.

2. A proposition is called *analytic* if the reason (motive) for assenting to it is not experience as such, but an analysis and comparison of abstract concepts. Its opposite is the synthetic proposition, whose motive is experience as such (induction).—A universal proposition (such as the principle of causality) is *absolutely certain* if it admits of no possible exception; and we are absolutely sure of such a proposition if we clearly see this. Its opposite are propositions which are only physically or morally certain, or which are doubtful.

3. The principal *adversaries* of this thesis are Hume and Kant.

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<sup>1</sup>This is also meant by the formula "No effect without a cause" (*nullus effectus sine causa*), though some reject it as tautologous.

*Hume*, defining cause as invariable succession or uniform sequence, reduced this invariability or uniformity to constant observation. We think two phenomena to be connected as cause and effect because we never observed any other sequence; and our conviction grows with the number of cases observed.

*Kant* admitted the necessity and universality of the principle, but derived both from the nature of our intellect: we cannot help thinking that a change is impossible without an efficient cause; but we do not know if this is so in reality. Therefore the necessity of the principle would be *purely psychological*, not due to insight or objective evidence.

4. Owing to the new definitions of cause, modern scientists have given a *new meaning* to the principle of causality. They take it as identical with the principle of the uniformity of nature, viz. all bodies act in accordance with definite laws, and therefore uniformly. The difference between the old and the new meaning is twofold: (a) The old meaning extends the principle to all causes; the cause of an effect might be necessary or free; the new meaning restricts it to necessary causes. (b) In the old meaning, the starting-point was the effect, for which an explanation was sought; in the new, the starting-point is the cause; its aim is to predict what will happen under certain conditions.

The difference is perhaps not so important except when scientists invade the field of philosophy.

### Proof of Thesis

1. The principle of causality is a truth of *common sense*. We are sure that nothing just happens or begins of itself.

2. Whatever begins to exist, has its existence either from itself or from something else. There is no third possibility.

Now the first alternative is absurd and against common sense. Therefore whatever begins to exist, receives its existence from something else. But now, unless that other thing exerted an active influence on the new being, it would be as if it were not.

Therefore, whatever begins to exist, owes its existence to

the active influence of another, that is, it has an efficient cause.

3. Whatever exists contingently, is of itself indifferent toward existence or non-existence; it does not, by its nature, demand existence.

Now this indifference cannot be removed except through something else which positively acts to bring about the thing's existence.

Therefore, whatever exists contingently, needs for its existence another which positively acts to bring about its existence, that is, an efficient cause.

*Cor. 1.* Nothing can be its own efficient cause. Since *agere sequitur esse*, it would have to exist before existing. However, a thing can be its own reason.

*Cor. 2.* Two things cannot be efficient causes of each other, viz. so that A would be the efficient cause of B, and B then the efficient cause of A.

*Schol. 1.* *Evidence* of the principle of causality

The principle is *immediately* evident. For it merely asserts: Something has existence, but not of itself; therefore from another. Our arguments really contain no middle term, nor is the evidence of the principle increased by them; they are merely a closer reflection on the relation between S and P.

Some try to increase the evidence of this principle by bringing it under the principle of sufficient reason. But that principle is less evident.

*Schol. 2.* *The uniformity of nature*

The principle of the uniformity of nature is generally enunciated as follows: Under like conditions, like agencies have like effects. Or simply: Like cause, like effect. It means that effects are *predetermined* in their (non-free) causes.

The principle supposes, of course, that the agencies are not free, and that there is no interference from other

agencies; also the principle must be restricted to immediate effects. Then the principle is analytic and self-evident; it requires no middle term for its proof, being merely an application of the more general principle "*agere sequitur esse.*"<sup>1</sup>

After W. Heisenberg announced in 1927 the *uncertainty principle* or principle of indeterminacy, some came to the conclusion that *chance* is nature's law. But such an inference was unwarranted. First of all, Heisenberg's principle is true only of subatomic particles, not of big bodies like the sun and the moon, nor even of molecules and atoms; it does not apply to psychological facts or to abstract thought. Secondly, the principle merely asserts that we cannot accurately observe and measure *simultaneously* the location and velocity of a subatomic particle. But each particle, being a material and therefore non-free agent, follows its predetermined course.<sup>2</sup>

Still, the *evidence* of the principle of the uniformity of nature is not exactly the same as that of the principle of causality. Everyone is familiar with the latter, because the terms involved are of the simplest and commonest. But the terms involved in the principle of the uniformity of nature are complex, and to fully grasp their meaning demands time and experience.<sup>3</sup>

## 2. Divisions of Efficient Cause

1. Scholastics call God the *first cause* (*causa prima*), because He made all things and depends on no other cause. They call creatures *secondary causes* (*causae secundae*), inasmuch as these, though true efficient causes, yet cannot act without God's simultaneous cooperation (*concursus, concurrence*).

<sup>1</sup>Cf. Coffey, Log. II p. 94-9; Rickaby, First Principles p. 94-8.

<sup>2</sup>Cf. T. Crowley, in Irish Ecclesiastical Record 1948 p. 785-799.

<sup>3</sup>Cf. Coffey, Log. II p. 99-113; Joyce p. 235-251; Rickaby p. 92-9.



2. A *free* cause is a being which can act or not act though all conditions for acting are present. A *necessary* cause is a being which must act when all conditions for acting are present.

3. A distinction which often occurs in philosophy, is that between *principal* and *instrumental* cause. Both are true efficient causes, but the first acts of itself (*primum movens*), while the second acts only as and when moved by the first (*movens motum*). Examples are plentiful: the carpenter using a saw to make a chair; the writer using a pen or pencil to write.

4. The following division is not always understood in the same sense. A *physical* cause is one which produces an effect by its own physical action (e.g. the carpenter making a chair); but be it noted that the term "physical" here is not always the same as "sensible"; God is the physical cause of the world. A *moral* cause is one which induces another agent to produce the effect physically. The moral cause does this by threats, command, persuasion, prayer etc. (e.g. the captain who tells the policeman to arrest the vagrant). However, in other cases, the term "moral cause" designates simply a free and therefore responsible cause, or refers to the action by which one faculty moves another.—An *intentional* cause is one which confers a dignity, power, obligation etc. (e.g. the governor appointing a judge).

5. A *causa per se* is so called with regard to the effects which flow naturally from it, or which it is meant by nature to produce (e.g. an oak is the *causa per se* of acorns). A *causa per accidens* is so called with regard to other effects (e.g. the oak is the *causa per accidens* of galls or oak apples growing on its leaves). From this it is clear what is the difference between *effectus per se* and *effectus per accidens*.

However, with regard to *free actions* the division has a slightly different meaning. A free agent is *causa per se* of

an effect intended; of effects not intended, the free agent is called *causa per accidens* (e.g. a man setting fire to his house while burning leaves).

### 3. Axioms

1. *The cause of a cause is the cause of the effect* (*causa causae est causa causati*). Thus the sun is the cause of light, and light is the cause of the photo; hence the sun is the cause of the photo.

2. *The effect is similar to the cause* (*omne agens agit sibi simile*). This axiom primarily refers to natural generation. Apart from this it must be combined with another axiom "*quidquid recipitur, per modum recipientis recipitur*." In other words, the effect also depends on the thing acted upon. Thus motion produces motion, heat heat etc.; but motion may also produce heat (e.g. when the thing acted upon is immobile). Then, too, sometimes the action of the efficient cause is insignificant, the effect tremendous (e.g. throwing a switch to discharge dynamite).

# Final Cause

## 1. Definition

1. The Scholastics define "final cause" as that which is *desired* (intended) by the efficient cause, or as that *for the sake* of which the efficient cause acts. Thus the patient takes the medicine because he desires his health, for the sake of regaining his health. Therefore, the patient's health is the final cause. English words corresponding to it are end, end in view, object, objective, purpose, motive; but while some of these have also other or wider meanings, they are here taken in accordance with the definition of final cause.

Note that also the *means* (e.g. the medicine) is desired, but not for its own sake; it is desired only for the sake of the end.

2. "End," "end in view" etc. and "*good*" are really identical. However, there is this difference: A good is something desirable; it can be desired; the end in view is actually desired.

3. In the concrete we can distinguish *three aspects* of the final cause: (a) the good itself which is desired (e.g. health); (b) the subject that is to benefit from the good (e.g. the patient); (c) the possession of the good (e.g. health regained). The efficient cause may be said to act for the sake of any or all three aspects. The Scholastics call the first aspect "*finis qui*," the second "*finis cui*," the third "*finis quo*."

Note that the good desired (*finis qui*) may or may not *exist* before being desired. Thus the suit I desire to buy, may already exist in the clothing store; but the health for the sake of which the patient takes his medicine, does not yet exist.

4. Another aspect of the final cause in the concrete are the *acts* which put the efficient cause in possession of the good desired. They belong to two different orders. In the *order of intention* they are: love of the good, the intention to acquire it, deliberation on the means, choice of the means; in the *order of execution* the acts are: use of the means, attainment of the good desired, joy and peace of mind.

It is these acts which constitute the *causality* peculiar to the final cause; the Scholastics call it "motio metaphorica," because it is so different from efficient causality.

## 2. Divisions

1. The *proximate* end is intended immediately, no other end or purpose intervening. The *intermediate* end is intended for an ulterior end. The *ultimate* end is one beyond which nothing else is intended.

Distinguish the intermediate end from the *means*. The intermediate end is also intended for its own sake, whereas the means is desired only for the sake of the end. But in concrete cases it is often difficult to decide whether something is a mere means or has the dignity of an intermediate end; e.g. going from New York to San Francisco by way of the Panama Canal.

2. The second division is very important. The *intrinsic* end (*finis operis*) is that good which a thing is meant to accomplish by its very nature; e.g. the intrinsic end of a clock is to indicate time. The *extrinsic* end (*finis operantis*) is that good which moves the efficient cause to act; e.g. the clockmaker plies his trade to make a living.

Note (a) that the two ends may coincide, as when the tailor makes a suit for himself, and (b) that the intrinsic end is not necessarily in the thing itself.

### 3. Reality of Final Cause

#### THESIS 29

##### **The end in view is a true cause.**

1. The word "end" might be taken as "limit," "terminal," "cessation"; e.g. the ends of the city, the end stop of a bus line, the end of the school year, the work done. Also the adjective "final" might be taken in corresponding meanings; e.g. the final week, the final judgment. We do not claim that these are causes. We speak of the *end in view*, the purpose, the object which a person intends to attain by his actions, as the health which the patient intends to regain.

2. A *cause*, in the scholastic sense, is that which by its positive influence produces an effect; it differs essentially from a mere condition or occasion. The adjective "true" adds nothing to the definition of cause, but is meant to guard against the idea that the end in view is a cause only in an improper or metaphorical sense.

##### *Meaning of thesis:*

We are not now concerned with the purpose which things of nature have; we restrict ourselves to those purposes which men pursue deliberately (e.g. a patient in the hospital trying to regain his health). Though some objections are a bit subtle, yet the thesis is certain and fundamental in scholastic philosophy and theology.

##### **Proof of Thesis**

A cause is a principle which by its positive influence produces an effect.

Now the end in view (purpose, object) does that.

Therefore the end in view (purpose, object) is a cause.

*Proof of minor:* Suppose I recognize something as good for me here and now, and I make up my mind to attain it. I first elicit acts of love and desire, which are aroused by the goodness of the object; I next choose the means to

attain the object; finally I use the means and so attain the object. The result of my actions is possession of the thing desired (*finis quo*), joy and peace of mind. Without the positive influence of the good desired, nothing of all this would have happened.

Therefore, though the causality of the good desired is wholly different from that of the efficient cause, yet the end in view exerts a *positive influence* on the acts of intention and execution by which the object is attained. Nor does it make any difference whether the good desired is real or apparent.

### *Schol. Final causality*

A further analysis of the causality of purpose yields the following: (a) It is the *goodness* of a thing for me that moves me to love it, to desire it, to choose the means for attaining it etc. (b) The goodness of the thing must be *known* and realized by me before it can exert any influence on my action. (c) This influence, the *final causality*, is nothing else than the desire of and tendency toward the known good; it is really identical with the acts of intention and execution by which I attain the end in view.

The goodness of the thing desired has also other effects. It produces *order* among several means; it makes certain means *necessary*; above all it makes the means themselves *desirable*. Bonum est diffusivum sui.

### *Objections*

1. Nothing can act or exert a positive influence before it exists (*agere sequitur esse*). Now in many cases the end in view does not exist; e.g. the suit of clothes which the tailor intends to make. Therefore the end in view cannot always exert a positive influence.

*A. Dist. M.* nothing can act before it exists either physically or intentionally, *yes*; nothing can act before it exists physically, *subd.* nothing can act intentionally, *no*; physically, *yes*. The end in view exists at least as a *known good* and in intention. Nor is its influence that of the efficient cause, which must exist physically before it can act.

2. The cause is prior to the effect. Now the causality of the end in view is simultaneous and identical with the effect, which are the acts of intention and execution.

*A. Dist. M.* the final cause *no*; the other three causes, *transmit*.

3. Nothing can be its own cause. Now if the end in view were a true cause, it would be its own cause; it would produce itself.

*A. Dist. M.* in the same order, *yes*; in different orders, *no*. The final cause exists first in the intentional order, then its effects follow in the physical order.

4. What exerts merely a metaphorical influence, is not a true cause. Now the end in view exerts merely a metaphorical influence; the Scholastics call it *motio metaphorica*.

*A. Grant Major. Dist. minor:* it is called *motio metaphorica* because it is not a real and positive influence, *no*; because it wholly differs from efficient causality, *yes*.

5. If the end in view were a real cause, it would be a cause also of God's actions. Now the conclusion is impossible; God's actions can have no cause. Therefore the end in view is not a real cause.

*A. Dist. M.* it would be a cause of the divine action itself, *no*; of the external effects due to divine action, *yes*.

#### 4. Axioms

1. *The final cause is the first of all four causes.* For without its influence, the efficient cause would never begin to act, and without the efficient cause the material and formal causes could not exert their causality. Consider the example of the sculptor given on p. 393.

This example refers, of course, only to *free human* activity. How the same principle applies analogously to divine creation and to necessary causes, will be explained in other branches of philosophy.

2. *What is first in intention, is last in execution.* This becomes evident if we go through the acts of intention and execution which are involved in conceiving and carrying out a purpose (supra p. 407).

3. *He who wants the end, wants the means.* For the end can only be reached through the means. We may be even more specific and say: The means are wanted as little or as much as the end. And therefore from the slackness or vigor with which we employ the means, one may argue to the slackness or vigor with which we want the end.

**Epilog**

We have completed our A B C. Whatever of scholastic philosophy is necessary for the discussion and understanding of an intellectual problem, is contained in the pages of this book. It is hoped that the student has made it all his own, so that he understands the beginning, middle and end of these problems. Equipped with this supreme science and trained in its art, he can now pass on to special metaphysics, which is merely a rigorous application of it to various fields of reality: the world, life, man and his soul, God, free human actions. And if he is favored by circumstances, he may proceed to apply the same science to the data of divine revelation, which is scholastic theology.



# Bibliography

## A. GENERAL WORKS

- Balmes, James*—Fundamental Philosophy (2 vols.). Sadlier, N. Y. 1858
- Baschab, Ch. R.*—A Manual of Neo-Scholastic Philosophy. Herder 1923
- Benignus, Bro., F.S.C.*—Nature, Knowledge and God. Bruce 1948
- Brauer, Th.*—Thomistic Principles in a Catholic School. Herder 1943
- Bruckmann, W. D.*—Keystones and Theories of Philosophy. Benziger 1946
- Brunner, A.*—Fundamental Questions of Philosophy
- de Concilio, J.*—The Elements of Intellectual Philosophy. Sadlier 1878
- Coppens, Ch., S.J.*—Logic and Mental Philosophy. The Cath. Publ. Soc., N. Y. 1892
- Donat, J., S.J.*—The Freedom of Science. Wagner, N. Y. 1914
- Doolan, A.*—Philosophy for the Layman. Dublin 1944
- Gilson, E.*—The Philosophy of St. Thomas. Herder 1924
- Gilson, E.*—Le Thomisme (ed. 5). Paris 1945
- Hill, W., S.J.*—Elements of Philosophy. Murphy, Baltimore 1877
- Jouin, L., S.J.*—Logic and Metaphysics. Fordham, N. Y.
- Lahr, Ch., S.J.*—Cours de Philosophie (2 vols.). Paris 1920
- Little, A., S.J.*—Philosophy without Tears. Buffalo 1948
- Lord, D. A., S.J.*—Armchair Philosophy. The America Press, N. Y.
- Maritain, J.*—Science and Wisdom. N. Y. 1940
- McNabb, V., O.P.*—The Catholic Church and Philosophy. Macmillan 1927
- McWilliams, J. A., S.J.*—Philosophy for the Millions. Macmillan 1942
- Mercier-Parker*—A Manual of Modern Scholastic Philosophy (2 vols.). Kegan Paul 1926
- Meyer, H.*—The Philosophy of St. Thomas Aquinas. Herder 1944
- Olgiati-Zybura*—The Key to the Study of St. Thomas. Herder 1925
- Phillips, R. P.*—Modern Thomistic Philosophy (2 vols.). Burns Oates
- Reinhardt, K.*—A Realistic Philosophy. Bruce 1944
- Schmid, Dom Mark*—The Solution is Easy. Pustet, N. Y. 1942
- Sertillanges, A. D.*—Foundations of Thomistic Philosophy. Herder 1931
- Shallo, M. W., S.J.*—Scholastic Philosophy. Reilly, Phila. 1923
- Sortais, G., S.J.*—Traité de Philosophie (2 vols.). Paris 1921
- Vaughan, J. A., S.J.*—Scholastic Philosophy. Los Angeles 1936
- Ward G. W.*—Philosophy of Theism (2 vols.). London 1884
- de Wulf, M.*—Medieval Philosophy. Harvard 1924

## B. INTRODUCTION TO PHILOSOPHY

- Glenn, P. J.—An Introduction to Philosophy. Herder 1944  
 Maritain, J.—An Introduction to Philosophy. Sheed and Ward 1930  
 Raeymaeker, L. de—Introduction to Philosophy. Wagner, N. Y. 1948  
 Robles, O.—The Main Problems of Philosophy. Bruce 1946  
 Ryan, J. H.—An Introduction to Philosophy. Macmillan 1924  
 Thiel, M., O.S.B.—Philosophieren. Freiburg 1947

## C. LOGIC

- Balmes, James—Elements of Logic. O'Shea, N. Y. 1880  
 Bittle, C. N., O.M.Cap.—The Science of Correct Thinking. Bruce 1935  
 Bodkin, R. C.—How to Reason. Dublin  
 Castets, J., S.J.—Logic. Trichinopoly 1905  
 Clarke, R. F., S.J.—Logic. Longmans 1889  
 Coffey, P.—The Science of Logic (2 vols.). Longmans 1912  
 Crumley, Th., C.S.C.—Logic, Deductive and Inductive. Macmillan 1934  
 Dimnet, E.—The Art of Thinking. Simon and Schuster, N. Y. 1929  
 Fearon, A. D.—How to Think. San Francisco 1943  
 Glenn, P. J.—Dialectics. Herder 1929  
 Hartmann, S.J., C.P.P.S.—A Textbook of Logic. American Book Co. 1936  
 Joyce, G. H., S.J.—Principles of Logic. Longmans 1908  
 Mahony, M. J., S.J.—Essentials of Formal Logic. N. Y. 1918  
 Maritain, J.—Introduction to Logic. Sheed and Ward 1937  
 McLaughlin, J., S.J.—An Outline and Manual of Logic. Milwaukee 1932  
 Poland, W., S.J.—The Laws of Thought. 1892  
 Riedl, J. O.—Exercises in Logic. Milwaukee 1935  
 Toohey, J. J., S.J.—An Elementary Handbook of Logic (ed. 3). N. Y. 1948  
 Turner, W.—Lessons in Logic. Washington 1911  
 Varvello, F., S.C.—Minor Logic. San Francisco 1933

## D. EPISTEMOLOGY

- d'Arcy, M. C., S.J.—The Nature of Belief. Sheed and Ward 1931  
 Balmes, James—Criterion. O'Shea, N. Y. 1875  
 Barron, J. T.—Elements of Epistemology. Macmillan 1931  
 Bittle, N., O.M.Cap.—Reality and the Mind. Bruce 1936  
 Coffey, P.—Epistemology (2 vols.). Longmans 1917  
 Cunningham, W. F., S.J.—Notes on Epistemology. Fordham, N. Y. 1930  
 Dávila, J., S.J.—Critica. Mexico City 1941  
 Driscoll, J. T.—Pragmatism. Longmans 1915  
 Gilson, E.—Réalisme Thomiste et critique de la connaissance. J. Vrin, Paris 1947  
 Glenn, P. J.—Criteriology. Herder 1933

- Hawkins, D. J. B.*—Criticism of Experience. London 1945  
*Keeler, L. W., S. J.*—The Problem of Error. Rome 1934  
*Mahony, M., S.J.*—Epistemology I. Fordham, N. Y.  
*Newman, J. H.*—Grammar of Assent.  
*Poland, W., S.J.*—Truth of Thought. 1896  
*Pontifex, Dom Mark*—Religious Assent. London 1927  
*Régis, L. M., O.P.*—St. Thomas and Epistemology. Milwaukee 1946  
*Rickaby, John, S.J.*—First Principles of Knowledge. Longmans 1919  
*van Riet, G.*—L'épistémologie thomiste. Louvain 1946  
*Rother, A., S.J.*—Truth and Error. Herder 1914  
*Rother, A., S.J.*—Certitude. Herder  
*Sullivan, J. B.*—First Principles in Thought and Being. Washington 1939  
*Talbot, E. F., O.M.I.*—Knowledge and Object. Washington 1932  
*Tonquédec, J.*—La Critique de la Connaissance. Paris 1929  
*Vance, J. G.*—Reality and Truth. Longmans 1917  
*Varvello, F., S.C.*—Major Logic. San Francisco 1933  
*Verda, Sister M.*—New Realism in the Light of Scholasticism. Macmillan 1926  
*Walker, L. J., S.J.*—Theories of Knowledge. Longmans 1911

## E. ONTOLOGY

- Bittle, C. N., O.M.Cap.*—The Domain of Being. Bruce 1939  
*Buckley, G. M.*—The Nature and Unity of Metaphysics. Washington 1946  
*Cahill, M. C.*—The Absolute and the Relative. Washington 1939  
*Casey, J. Th.*—The Primacy of Metaphysics. Washington 1936  
*Coffey, P.*—Ontology. Longmans 1926  
*Dezza, P., S.J.*—Metaphysica Generalis. Rome 1945  
*Fuetscher, L., S.J.*—Die ersten Seins und Denkprinzipien. Innsbruck 1930  
*Fuetscher, L., S.J.*—Akt und Potenz. Innsbruck 1933  
*Glenn, P. J.*—Ontology. Herder 1937  
*Harper, T., S.J.*—The Metaphysics of the Schools (3 vols.). London 1879  
*Hoban, J. H.*—The Philosophy of Personality. Washington 1939  
*Maritain, J.*—A Preface to Metaphysics. Sheed and Ward 1939  
*McCormick, J. F., S.J.*—Scholastic Metaphysics I. Chicago 1928  
*Meehan, F. X.*—Efficient Causality in Aristotle and St. Thomas. Washington 1940  
*Miltner and O'Grady*—Introduction to Metaphysics. Macmillan 1935  
*Mullen, D.*—Essence and Operation. Washington 1941  
*O'Brien, Sister M. C.*—The Antecedents of Being. Washington 1939  
*O'Connor, E. M.*—Potentiality and Energy. Washington 1939  
*Ontology.* Fordham, N. Y. 1923  
*Osgniach, A. J., O.S.B.*—The Analysis of Objects. Wagner, N. Y. 1938  
*Phelan, G. B.*—St. Thomas and Analogy. Milwaukee 1941  
*Przywara, E., S.J.*—Polarity. Oxford Univ. Press 1935

- Renard, H., S.J.*—The Philosophy of Being. Bruce 1943  
*Rickaby, John, S.J.*—General Metaphysics. Benziger, N. Y. 1890  
*Rother, A., S.J.*—Being. Herder 1911  
*Rother, A., S.J.*—Beauty. Herder 1917  
*Shircl, C., O.F.M.*—The Univocity of the Concept of Being. Washington 1942  
*Smith, E., O.S.B.*—The Goodness of Being in Thomistic Philosophy. Washington 1947

## F. EXPERIMENTAL PSYCHOLOGY

- Allers, R.*—Psychology of Character. Sheed and Ward 1935  
*Barrett, J. F.*—Elements of Psychology. Bruce 1931  
*Barrett, J. F.*—This Creature Man. Bruce 1936  
*Brennan, R. E., O.P.*—General Psychology. Macmillan 1937  
*Fearon, A. D.*—The Two Sciences of Psychology. San Francisco 1937  
*Fröbes, J., S.J.*—Lehrbuch der experimentellen Psychologie. Herder 1923-1935  
*Gaffney, M. A., S.J.*—The Psychology of the Interior Senses. Herder 1942  
*Gruender, H., S.J.*—Experimental Psychology. Bruce 1932  
*Gruender, H., S.J.*—Problems of Psychology. Bruce 1937  
*Harmon, F. L.*—Principles of Psychology. Bruce 1938  
*Lindworsky, J., S.J.*—Experimental Psychology. Macmillan 1931  
*Maher, M., S.J.*—Psychology. Longmans 1925  
*Miller, L. F.*—General Psychology. Wagner, N. Y. 1928  
*Pyne, J. X., S.J.*—The Mind. Benziger, N. Y. 1926  
*de la Vaissière, J., S.J.*—Elements of Experimental Psychology. Herder 1926

## G. HISTORY OF PHILOSOPHY

- Bandas, R. G.*—Contemporary Philosophy and Thomistic Principles. Bruce 1932  
*Behn, S.*—The Eternal Magnet. N. Y. 1929  
*Cayré, F., A.A.*—Manual of Patrology (2 vols.). Desclée 1936, 1940  
*Copleston, F., S.J.*—The Philosophy of Greece and Rome. Burns Oates 1946  
*Coppens, Ch., S.J.*—A Brief History of Philosophy. N. Y. 1909  
*Foot, P. J., S.J.*—Outline History of Scholastic Philosophy (in *Shallo, Schol. Phil.*)  
*Glenn, P. J.*—The History of Philosophy. Herder 1932  
*Hawkins, D. J. B.*—A Sketch of Medieval Philosophy. London 1946  
*Klimke, F., S.J.*—Institutiones Historiae Philosophiae (2 vols.). Herder 1923  
*MacDonald, M. F.*—The Progress of Philosophy. Brooklyn 1930  
*Mahony, M., S.J.*—History of Modern Thought. Fordham, N. Y. 1933  
*Miller, L. F.*—A History of Philosophy. Wagner, N. Y. 1927  
*Raemers, S. A.*—America's Foremost Philosopher. Washington 1931  
*Ryan, A.H.*—Perennial Philosophers. Dublin 1946  
*Stebbing, G., C.S.S.R.*—An Outline of the History of Philosophy. Herder 1931

*Turner, W.*—History of Philosophy. Boston 1903

*Ueberweg-Baumgartner*—Grundriss der Geschichte der Philosophie.  
Berlin 1915

*Walshe, T. J.*—The Quest of Reality. London 1933

*de Wulf, M.*—Outlines of the History of Philosophy (in *Mercier-Parker's Manual*)

*de Wulf, M.*—History of Mediaeval Philosophy (2 vols.). Longmans 1925-6

# Alphabetical Index

- abaleitas 313
- Abelard 24
- ab esse valet illatio ad posse 74, 149
- abnormal 40, 127, 173, 218, 280
- absence 300, 355, 360
- absolute 385, 386, 387
  - accident 375
  - certitude 256-9, 400
  - freedom 136
  - good 348, 352, 354
  - necessity 199-204
  - supposition 58, 71
  - truth 141, 143
- abstract concept 53, 158-9, 160, 185, 294, 309
- abstraction 52, 53, 152, 183, 195-6, 311-3
- abstrahentium non est mendacium 152
- absurd 40, 108, 135, 142, 266, 398
- ab uno disce omnes 112, 202
- Academia 8
- Academicians 135
- accident
  - logical 98, 105, 310, 311
  - ontological 313-7, 325, 334, 339, 353, 360, 361, 362-376, 379, 386
- accidental 362
  - change 325, 376
  - conversion 73
  - definition 105
  - division 102
  - uniqueness 331
  - unit 334
- acosmistic idealism 166-7
- act 23, 298, 322, 327-331
- action 238, 330, 377
- actiones sunt suppositorum 381
- active potency 328, 330
- activity 360, 364, 376, 393, 397
- acts of the mind 219, 273
- actu 324
- actual
  - being 327
  - multitude 334
- actuality 159, 318
- actus
  - mixtus 329
  - purus 329
  - secundus 329, 330
- adequate
  - distinction 339
  - possibility 319
- adversative proposition 65
- affections 237
- agere sequitur esse 211, 330, 356, 364, 402, 403, 409
- aggregation 334
- agreement
  - of mankind 245-6
  - of witnesses 216, 220
- aim 393
- Albert the Great 11, 24-5
- alike 338
- alimentary sense 161
- alteration 325
- ambiguity 35, 111
- Ammonius 9
- analogous
  - concept 53, 394
  - term 56, 152, 259, 314-7, 349
- analogy 36, 206, 209, 238, 314-7, 338
- analysis 52, 183
- analytic principle 199-204, 304, 400-2
- anatomy 4
- Anaxagoras 6
- Anaximander 6
- Anaximenes 6
- ancilla theologiae 26
- Andronicus 293
- angels 44, 127, 183, 294, 336
- animals 127, 359, 379, 382
- annihilation 323, 326
- a non esse non valet illatio ad non posse 74
- a non posse valet illatio ad non esse 74
- Anselm 24
- antecedent 67, 76, 78, 393, 398
- anthropology 5, 94

- a pari 36  
 a posse non valet illatio ad non  
     esse 74  
 a posteriori 109  
 apparent  
     —evil 350  
     —good 287-9, 348  
     —truth 282-6, 346  
 apperception 175-6  
 appetibility 347  
 apprehension—*see* simple  
 approximate truth 271  
 a priori 109  
 aptitude of the mind 151, 201,  
     237, 254  
 arbitrary  
     —order 357  
     —sign 55  
 d'Arcy 39, 92  
 argumentation 30-8, 95, 106-110,  
     208-9, 232, 283  
 argument from silence 225-6  
 argumentum ad hominem 109  
 Aristotle 6, 8-9, 11, 21-4, 25,  
     31, 63, 75, 99, 107, 111,  
     138, 156, 167, 232, 248,  
     293, 327, 360, 373, 375,  
     381, 390, 391, 393  
 Arnold M. 230  
 art 48-9  
 artificial  
     —change 325  
     —things 319, 345-6, 379  
     —unit 334  
 aseitas 313  
 assent 130, 235, 265  
 assertion 60, 64, 127  
 association 163  
 associationists 183, 379  
 astronomy 4, 19  
 atheism 42  
 atheists 264, 373  
 atom 374, 382  
 attention 32, 156, 244, 283  
 attitude, initial 39-44, 129, 132,  
     252-4, 297  
 attributes of being 295, 332-356  
 Augustine 10, 21-3, 29, 139  
 Augustinians 28  
 author 222  
 authority  
     —of teacher 284-5  
     —of witness 217, 244  
 autograph 222, 224  
 average 93  
 Averroes 11-2  
 Averroists 12, 26, 140  
 Avicenna 10-1, 27, 302  
 axioms 201, 204, 260, 351-2,  
     357, 372  
 bad 43, 48, 347-356  
 Baierl 228, 231  
 Bain A. 183, 365, 389  
 Balmes 241  
 Barth K. 314  
 Bayle G. 135  
 beauty 332  
 becoming 18, 322-6  
 befitting good 349  
 begging the question 113  
 beginning of philosophy — *see*  
     attitude  
 behaviorism 148, 154, 156-7, 158,  
     246  
 being 99, 269, 295, 298-331, 359,  
     363, 379  
 belief 130, 217  
 Benn W. 304, 305  
 Berkeley 16, 28, 166, 196, 198  
 biology 4, 19  
 biosphere 382  
 body 13, 42, 161, 165-181, 367,  
     373  
 Boethius 22, 382  
 Bollandists 231  
 Bonaventure 27, 351  
 bonum est diffusivum sui 351,  
     409  
 botany 4, 359  
 Brahmanism 6  
 Buddhism 6  
 calculus of probabilities 83, 92,  
     223  
 Cano M. 30  
 Cartesians 365, 366, 368-9  
 Cartesius—*see* Descartes  
 categorical  
     —judgment 75, 274

- proposition 50, 54, 55, 62, 66, 127
- syllogism 31-2, 33, 35-6, 37, 75-83, 107, 205
- categories 99, 191, 247, 295, 359-389, 397
- causal definition 105
- causality 23, 392, 394, 397-404, 407, 409
- causa per se, per accidens 351, 356, 404-5
- causa prima, secunda 403
- causes 2, 105, 109, 112, 357, 392
  - of being 295, 393-410
  - of error 280-9
- certainty 130, 256
- certitude 40, 127, 130-1, 146-232, 233-268, 273
- chain of reasoning 85
- chance 357, 403
- change 6, 298, 322-6, 327, 376, 394, 400, 401
- Charron 135
- chemistry 4, 19, 359, 362
- chemists 177, 374, 378
- Chesterton 265
- Christian Science 264, 284, 350, 354, 355
- circle
  - disputation 32-8
  - legitimate 109
  - vicious 113, 212
- circulatory sense 161
- Clarke 189
- classes 86, 192, 359
- clear idea 7, 52, 277
- cogent evidence 168, 244, 265
- cogitari est esse 18, 191
- cogito, ergo sum 149
- cognition 127
- cognitive faculty 146, 147-154, 174
- cognitum est in cognoscente 145
- coherence 272
- Coleridge 304
- collective
  - idea 54
  - supposition 58
  - term 56
- color 174, 177-181, 370
- colorblind 174
- coloring of facts 113
- common
  - accident 375
  - sense 39-44, 161, 167, 182, 241, 251, 398, 401
  - sensibles 172
  - term 56, 58, 192
- comparative proposition 65-7
- comparison 50, 52, 75-6, 153, 183, 188-9, 196
- complete
  - being 360
  - definition 73
  - diversity 54
  - essence 379
  - identity 54, 338
  - independence 364
  - induction 86, 205
  - substance 336, 374, 381
- complex
  - order 357
  - proposition 64, 72
  - term 56
- complicated order 357
- composite
  - being 334
  - idea 52
  - image 185
- composition 311-3
- compound
  - proposition 65, 72
  - substance 374
- comprehension
  - of idea 52
  - of term 56
- Comte A. 19, 157, 200, 388, 398
- concept—*see* idea
- conceptual
  - distinction 337
  - entity 306
- conceptualism 191
- conclusion 76, 78, 107
- concrete
  - nature 160
  - term 309
- condition 391, 392, 398
- conditional
  - proposition 67
  - syllogism 37, 83, 107



- conditio sine qua non 392  
 conformity 270, 344  
 confused ideas 52, 282-3  
 conjunctive  
   —proposition 68, 72  
   —syllogism 84  
 connotation 52  
 conscience 43, 204, 350  
 conscientia directa, reflexa 185  
 consciousness 155-164, 166, 182,  
   185, 241, 246, 365-6, 383  
 consequence 76-7  
 consequent 67, 76-7, 78  
   —fallacy of 83  
 constitutive principles 393  
 contingent 66, 400, 402  
 contraction 98, 312-3  
 contradiction 324  
 contradictory 70-2, 268  
 contra factum non valet argu-  
   mentatio 160, 165, 204,  
   323  
 contraries 70, 72, 372  
 convergence of probabilities 214,  
   218  
 conversion 73  
 conviction 130, 168-9  
 coordination 96  
 copula 62, 73, 127, 301  
 copulative proposition 65  
 copy 222, 224  
 corollary 22, 31  
 correct 47, 48, 69, 77, 95, 107,  
   108  
 correlates 385  
 correlative terms 362  
 corruption 325  
 cosmology 6, 295, 361, 376, 395  
 Cousin V. 364  
 creation 323, 326, 328  
 Creator 42, 372-3, 387, 403  
 creature 301-2, 312-7, 318, 322,  
   339, 345, 351, 364, 372,  
   378, 382, 387, 403  
 credibility of witness 215-231,  
   255  
 criteriology 127  
 criterion of truth 276-280  
 critical realists 167  
 critics 127  
 cumulative argument 69, 91-2,  
   107, 108, 110, 205-214  
 cutaneous sense 161  
 Dakin E. F. 264  
 death 42  
 deduction 86, 110, 199, 205-214,  
   261, 266  
 defender of thesis 32-6  
 definition 95, 103-6  
 degrees  
   —of certitude 256-9  
   —of error 279  
   —of evidence 264  
   —of probability 267-8  
   —of truth 279  
 demonstration 108, 170, 199,  
   202, 243, 246, 248  
 denotation 52  
 dependence 42, 67, 293, 313, 317,  
   321, 363, 370, 382, 383,  
   392  
 Descartes 12-3, 41, 148, 153,  
   158, 170-1, 173, 181, 233,  
   253, 261, 277, 320, 364  
 descriptive  
   —definition 105  
   —hypothesis 87  
 desirable 347, 406-410  
 Dewey J. 141, 238, 272, 277  
 difference 97-8, 104, 304, 311-  
   338-9  
 difficulties 31, 138  
 difformity 195, 270, 344, 354  
 dilemma 80  
 direct  
   —argument 108  
   —certitude 250-5  
   —universal 54, 97, 193, 194-8  
 discrepancy 304  
 disgusting 350  
 disjunctive  
   —proposition 67, 72  
   —syllogism 36, 38, 83-4  
 disorder 357  
 disputation 32-8  
 dissent—*see* assent  
 dissimilarity 307, 339  
 distinct idea 52, 277

- distinction 35-6, 64, 111, 302,  
     333, 338-343, 387  
 distributive supposition 58, 63  
 diversity 304, 333, 339  
     —of ideas 54, 61  
 divine testimony 220  
 division 95, 101-3, 333, 339-343  
 doctrinal testimony 219, 267  
 doctrine and method 47-8  
 dogma 116, 139  
 dogmatism 139, 254  
 dogmatist 39, 129  
 double truth 12, 26, 140  
 doubt 39, 130, 139, 149, 234,  
     252-4, 260-6, 267  
 dreams 159-160, 168-9, 183, 188  
 Duns Scotus—*see* Scotus  
 Durant W. 24, 208  
 dynamic order 357  
  
 ecology 382  
 economics 4, 9  
 Eddington A. 211  
 effect 330, 392-410  
 effectus per se, per accidens  
     351, 404  
 efficient cause 6, 351, 353, 355,  
     356, 393-5, 397-405, 406  
 Ego 160, 163, 185, 367  
 Einstein 140, 264  
 Eleatics 310, 323, 324  
 electron 382  
 elements 393  
 Emerson 312  
 empirical law 87  
 end 351, 406-410  
 Enneads 9  
 ens 299  
     —ab alio, a se 313-7  
     —entis 363, 372  
     —in alio, in se 313-7, 362, 368  
     —in potentia 327  
     —per se 313-7, 362, 365  
     —rationis 306  
 enthymeme 84-5  
 entia non sunt multiplicanda 89,  
     170, 204, 396  
 entitative act 329  
 epistemology 6, 15, 17, 52, 125-  
     289, 344  
  
 equivalent 337  
 equivocal terms 56, 314-7  
 equivocation 111  
 error 40, 47, 128, 129, 138, 151,  
     153, 216, 231, 263, 264-  
     289, 344, 355  
 esse ad, in 386  
 essence 22, 97-8, 104-5, 203, 206,  
     210, 211, 212, 301-2, 330,  
     334, 345, 358, 377, 378-  
     381  
 essential  
     —definition 104  
     —division 102  
     —parts 104-5  
     —uniqueness 333  
 esthetics 141  
 estimation 93  
 ethics 5-6, 9, 15, 17, 129, 141  
 Eucharist 170, 366, 370  
 evidence 40, 239-248  
 evil 42, 347-355  
 evolution 18, 145, 322  
 evolutionists 112, 200, 204  
 exaggerated realism 191, 341  
 exceptive proposition 65  
 exclusive proposition 65  
 execution, order of 407, 410  
 exemplary cause 394  
 existence 74, 107, 299-302, 318,  
     329, 330, 337, 339, 358,  
     392, 393, 397, 400, 402,  
     406, 409  
 existentialism 198  
 experience 47, 52, 150, 155, 165,  
     167-8, 199-200, 213, 246-7,  
     261, 266, 277, 321, 367,  
     399, 400  
 experiment 86-7  
 explanation 90, 94, 391  
 explanatory hypothesis 87  
 explicative proposition 64  
 extension  
     —of bodies 161, 165  
     —of ideas 52  
     —of terms 56, 63  
 external  
     —argument 224  
     —experience 52, 367  
     —facts 214-231

- impossibility 318
- possibility 318
- senses 150, 165-181, 182
- extremes of relation 385
- extrinsic
  - accident 376
  - analogy 238, 314-7, 352, 356
  - change 324
  - dependence 392
  - end 407
  - evidence 243-4
  - good 354
  - principle 393
  - probability 267
  - unity 335
- eye-witness 227
- factitious ideas 214
- faculty 146, 147-154, 377, 404
- faith 3, 20, 22, 25, 44, 233, 255, 383
- fallacy 83, 111-3
- false 129, 275, 346
- falsehood 129
- fear of error 260, 264
- Feder 214, 220, 223, 226
- feeling 237
- Fichte 184
- fictitious doubt 139
- fideism 245
- figment of the mind 197, 306
- figures of the syllogism 77, 80
- final cause 6, 354, 393-5, 406-410
- finis
  - operis, operantis 407
  - qui, cui, quo 406
- finite beings 359
- first
  - act 329
  - cause 403
  - concept 308
  - principles 107, 201, 203, 308-9
- form 23, 35, 53, 301, 309, 329, 338, 339, 394
  - of argument 31, 108
  - of order 357
  - of proposition 62
  - of syllogism 76-7, 205-6
- formal
  - act 329
  - cause 393-5
  - certitude 131, 138, 233, 234-266
  - distinction 337, 342
  - error 280
  - identity 54, 338
  - object 3, 49, 127, 147, 152, 172, 294, 359
  - principle 107, 199
  - supposition 57
  - unity 334
- foundation 307, 341
  - of possibles 320-1
  - of relation 385, 387-8
- free
  - action 43, 404
  - cause 392, 404, 410
  - certitude 260-6
  - will 41, 42, 211, 213
- Freud 161
- Frick 253, 262, 263
- Fröbes 155, 157, 160, 163, 164, 165, 171, 189, 220, 235
- Garstang 230
- general
  - education 232
  - idea 52
  - metaphysics 6, 99, 287-410
- generalization 89, 209, 213, 219
- generation 325, 405
- generic
  - difference 99
  - essence 379
  - property 98
- genetic definition 105
- genuinity 222
- genus 86, 97, 104, 192, 310, 311, 359, 360, 374
- geology 4
- geometry 199, 202, 244, 264
- Gioberti 308
- God 2, 3, 42, 44, 53, 59, 107, 127, 133, 146, 148, 151, 153, 166, 169-170, 183, 185, 206, 211, 214, 216, 219, 239, 240, 245, 247, 274, 294, 301, 308, 309,

- 313-7, 318-321, 329, 339,  
 342, 344, 353, 359-360,  
 364, 370, 371, 373, 378,  
 380-1, 383, 384, 396, 404,  
 409  
 good 43, 48, 347-356, 406  
 goodness 295, 347-356, 409  
 gradual change 325, 329  
 gradus metaphysici 341  
 gratis asseritur, gratis negatur  
 165, 185, 189, 204  
  
 habit 49, 235, 360  
 haecceitas 336-7  
 haphazard 357  
 harmful 347, 350  
 Hegel 18, 184, 191, 284, 304, 324  
 Heisenberg W. 403  
 Heraclitus 324  
 Herbert of Cherbury 245  
 Hettinger 139, 255  
 historical  
   —accounts 221-231  
   —facts 221  
   —testimony 215-231  
   —truth of miracles 227-231  
 history 5, 213, 221-231  
 Hobbes 389, 398  
 Huet 245  
 Hume 16-7, 28, 112, 183, 198,  
 200, 228, 365, 398, 400,  
 401  
 Huxley J. 365  
 hypostasis 381  
 hypothetical  
   —deduction 206  
   —necessity 200  
   —proposition 67-8, 72  
   —syllogism 83-4, 205  
  
 I 156  
 Ibn Roshd 15  
 Ibn Sina 14-5  
 idea 8, 50, 51-4, 182-198, 293-5,  
 308-317  
   —analogue 53  
   —composite 52  
   —factitious 214  
   —false 221  
   —general 52  
   —primitive 51, 183, 186, 196,  
     202, 214, 299  
   —simple 52  
   —systematic 51  
   —universal 8, 52-4, 97, 101,  
     311, 359  
 idealism 16, 18, 150, 166-7, 187-8  
 idealists 166-7, 168, 184, 191,  
 264, 307  
 identity 54, 61, 333, 337-8  
 ideology 1  
 ignorance 130  
 ignoratio elenchi 113  
 "illative sense" 203, 214  
 illicit transition 112  
 illusion 179, 241  
 images 182, 296  
 imagination 159, 161, 182, 350  
 immaterial 185, 293-4, 373, 379  
 immediate  
   —cognition 155  
   —evidence 243, 402  
   —inference 69, 70-1  
   —inferiors of being 310-7  
   —judgment 76  
   —memory 162  
   —principles 199-204, 304  
   —testimony 214  
 immutable 322, 364  
 imperfect  
   —abstraction 312  
   —argument 109  
   —evidence 244  
   —foundation 341  
   —induction 84-90, 107, 108,  
     110, 205-214, 247  
   —precision 312  
 impossibility 318  
 impossible 66  
 imprudent  
   —doubt 260-6  
   —opinion 267  
 in 53, 313, 361-2  
 inaccuracy 283-4  
 in actu primo etc. 331  
 inadequate distinction 339  
 inaleitas 313  
 Incarnation 3, 384  
 incommunicability 384

- incomplete  
   —essence 379  
   —induction 86, 205-214  
   —substance 374, 376, 381  
 inconceivability of the opposite 278  
 indefinite term 56  
 independence 293, 313, 363, 364, 370, 382, 383  
 indeterminacy 403  
 Index 255  
 indifferent 347, 353  
 indirect argument 108  
 indispensable condition 392  
 individual 104, 193, 334, 336-7, 360, 373, 381-2  
 individualism 383  
 individuality 53, 152, 195, 285, 336-7, 381  
 individuation 336  
 indivisible 334, 373-4  
 induction 7, 86-90, 107, 108, 110, 205-214, 247  
 in facto esse 322, 324, 360  
 infallibility 147-154, 235, 256  
 inference—*see* reasoning  
 inferiors 52, 96, 101, 310-7, 359, 374  
 in fieri 322, 324, 360  
 infinite regress 208, 396  
 inherence 313, 352, 356, 363, 365, 368, 370-1, 372  
 initial  
   —attitude 39-44, 129, 132, 253-4, 296  
   —definition 103  
 in obliquo 369  
 inorganic 359, 379, 382  
 in potentia 324  
 in recto 53, 337, 369  
 inseitas 313  
 insight 50, 76, 186  
 instantaneous change 325  
 instinct 161, 237, 241  
 instrumental cause 404  
 instrumentalism 238  
 integral parts 382  
 integrity 222  
 intellect 51, 143, 145, 150, 182-204, 280-9, 332, 401  
 intellectual  
   —idolatry 284  
   —instinct 241  
   —laziness 287-8  
   —miracle 227  
 intellectus  
   —agens 203  
   —principiorum 203  
 intelligent cause 357  
 intelligibility 332, 344-5, 394, 395  
 intention, order of 407, 410  
 intentional cause 404  
 interchangeable 337  
 intermediate end 407  
 internal  
   —argument 224  
   —evidence 243  
   —experience 52  
   —facts 218  
   —impossibility 318  
   —possibility 318-321  
   —senses 150, 161, 182  
 interpretation of facts 159-160  
 intrinsic  
   —accident 375, 376  
   —analogy 314-7  
   —causes 378  
   —change 324, 327  
   —dependence 150, 373, 392  
   —end 407  
   —evidence 243  
   —evil 350  
   —good 348, 351, 353, 354  
   —principle 377, 378, 394  
   —probability 267  
 introduction  
   —to epistemology 127-8  
   —to logic 47-9  
   —to ontology 293-7  
   —to philosophy 1-44, 132  
 introspection 156  
  
 James W. 141, 160, 272, 383, 398  
 Jeannière 253  
 John of Mirecourt 166  
 judgment 50, 60, 127, 150, 182-9, 269, 273-5, 280

- Kant 17-8, 144, 153, 173, 175,  
     179, 184, 191, 195, 200,  
     241, 247, 248, 253, 254,  
     271, 284, 312, 360, 364,  
     378, 387, 389, 397, 401  
 Kepler 87, 88  
 kinesthetic sense 161  
 knowledge 2, 216, 217, 222, 233,  
     319-320, 369, 371, 376,  
     378-9, 388-9  
 de Kruif 89, 137  
  
 Laird A. 167  
 de Lamennais 173, 245  
 Lao-tse 6  
 Laplace 223  
 Launoy 225  
 laws 4, 86, 87, 209  
     —of association 163  
     —of being 200-4, 206, 209  
     —of definition 105-6  
     —of division 102  
     —of hypothesis 87-90  
     —of syllogism 78-84  
     —of thought 200-4, 305  
 legitimate  
     —circle 109  
     —hypothesis 89  
 Leibniz 14-5, 28, 138, 253, 261,  
     364, 395  
 Leo XIII 29  
 liberalism 383  
 lie 129, 137, 216, 231  
 likeness 67, 196-7, 271, 333,  
     337-8  
 Locke 15-6, 28, 42, 178, 180,  
     183, 191, 198, 253, 365,  
     367, 378, 387, 389, 397  
 logic 5-6, 9, 22, 45-124, 305  
 logical  
     —accident 98, 105, 310, 311,  
         364  
     —being 305-7, 339, 345-6, 360  
     —composition 312-3  
     —dependence 67  
     —distinction 339-343, 375, 377,  
         380, 388  
     —entity 306  
     —identity 338  
     —induction 69, 86-90  
     —order 330, 331, 358  
     —principle 391  
     —priority 109, 391, 393, 409  
     —relation 338, 386-7  
     —supposition 58, 71  
     —truth 129, 247, 344  
     —unity 334  
     —whole 101  
 logistic 209  
 Loisy 137  
 Lotze 271  
 Lovejoy 167  
 lumen rationis 204  
 Lyceum 8  
  
 major  
     —distinction 340  
     —logic 127  
     —premise 35-6, 76, 207, 209,  
         391  
 Malebranche 171  
 man 41, 98, 379  
 Manicheans 10, 352, 353  
 many 53, 333-7  
 Maritain 39  
 Martinet 178  
 mass propaganda 285  
 material 293, 379  
     —accident 375  
     —cause 6, 352, 353, 393-5  
     —identity 338  
     —object 2, 48, 127, 147, 294,  
         359  
     —principle 107, 199  
     —substance 373, 382  
     —supposition 57  
 materia signata 336  
 mathematical  
     —axioms 200, 201, 202  
     —certitude 260-6  
     —evidence 13, 181  
     —figure 319, 379  
     —logic 209  
     —physics 181  
 mathematics 9, 19, 247, 256,  
     261, 266  
 matter 293, 336-7, 394  
     —of order 357  
     —of proposition 62  
     —of syllogism 76

- Maudsley 157  
 Mazdaism 6  
 meaning of book 222, 224  
 means 351, 406-410  
 mediate  
   —evidence 243  
   —inference 69, 75  
   —inferiors of being 313, 317  
   —judgment 76  
   —principle 199  
 medieval schools 28  
 medium 173, 188  
 members of division 101  
 memory 156, 161, 162-3, 182,  
   266, 366-7  
 Mercier 171, 250, 253, 271, 321  
 metaphysical  
   —accident 375, 377  
   —certitude 256-9  
   —definition 104-5  
   —distinction 340  
   —essence 380  
   —grades 341  
   —order 358  
   —reality 319  
   —supposition 57  
 metaphysics 5-6, 9, 18, 20, 23,  
   62, 141, 204, 291-410  
 meteorology 94  
 method 7, 22-3, 47-8, 95-110,  
   204, 232, 395, 396  
 methodical doubt 138, 139, 149,  
   253  
 middle term 76, 208, 304  
 Mill vii, 20, 148, 183, 200, 207,  
   262, 365, 389, 398  
 mind 48, 129-131, 150, 241, 269,  
   344  
 minor  
   —distinction 340  
   —premise 76, 211  
 miracle 212, 216, 227-231, 256,  
   263, 344  
 mixed  
   —act 329  
   —relation 387  
 modal  
   —distinction 342-3  
   —proposition 66, 72  
 model 394  
 moderate realism 194-8  
 modernists 237, 277  
 modes  
   —of being 339, 342, 375-6  
   —of predication 97-8, 311  
 modi sciendi 95  
 molecule 374, 382  
 monad 15  
 monists 310, 335  
 monsters 345  
 Montaigne 135, 173  
 moods of syllogism 77, 81-4  
 moral  
   —action 351  
   —cause 404  
   —certitude 230, 256-9, 400  
   —evil 212, 350  
   —good 212, 349  
   —law 86, 213, 221  
   —miracle 227  
   —order 358  
   —principles 204  
   —truth 129  
   —unit 334  
 motio metaphorica 394, 407, 409  
 motion 369, 376  
 motive  
   —of action 406-410  
   —of assent 199, 202  
   —of certitude 233, 234, 239,  
     256-7  
   —of credibility 255  
   —of probability 267  
 movens motum 404  
 multiplicity 333  
 multitude 333-7  
 mutation 322  
 mutual relation 387  
 mystery 244, 297  
 natural  
   —abilities 3, 44  
   —change 325, 327  
   —classes 86  
   —cognition 127, 239  
   —evil 350  
   —good 349  
   —logic 207, 252  
   —order 233, 239, 244, 358  
   —potency 329, 330

- reasoning 207
- sciences 4-5, 94, 359, 379
- series 361
- sign 55
- theology 6, 22
- unit 334
- nature 43, 212, 330, 338, 341, 377
  - of certitude 233-268
  - of consciousness 160
  - of proper sensibles 177-181
- necessary 66
  - cause 404, 410
  - certitude 260-6
  - means 409
  - order 357
  - principles 199-204
- necessity 200, 247-8, 329
- negation 300, 303, 306, 332
- negative
  - argument 109
  - change 325
  - distinction 340
  - nothing 300
  - proposition 300
- negatively immaterial 294
- nemo gratis mendax 217
- Neo-Hegelians 144-5
- Neo-Platonists 9, 166
- Neo-realists 167
- Neo-scholasticism 21, 29
- Neo-Thomism 29
- neutron 382
- Newman, Cardinal 92, 201, 203, 232, 265, 266, 283, 284, 286
- Nicholas of Autrecourt 166
- nihil est in intellectu etc. 52, 150, 179, 183, 192, 198, 202, 320, 367
- nihil fit sine causa 400
- nominal
  - definition 103-4, 107
  - essence 378
- nominalists 27, 29, 190-1, 261
- non-mathematical certitude 260-6
- non-mutual relation 387
- nonsense 344
- normal 40, 127, 172-3, 174, 218, 280
- note
  - of idea 52, 53, 309, 321, 380-1
  - of thesis 30
- nothing 300, 304, 352-5, 360
- notion—*see* idea
- notional assent 266
- noumenon 18, 144, 379, 389
- nullus effectus sine causa 401
- number 333
- numerically distinct 339
- obediential potency 329
- object 2, 48, 147, 157, 160, 239, 393, 406
- objections 23, 31, 34, 138, 254-5
- objective
  - certitude 131
  - cognition 127, 144-5, 308
  - evidence 239-248, 276-8
  - idea 51, 192, 308
  - idealism 166-170
  - identity 54
  - inference 70, 75
  - judgment 60, 269
  - order 358
  - potency 328
  - realists 167
  - reasoning 69
  - skeptic 134
- objective validity
  - of being 302-3
  - of change 323-4
  - of efficient cause 397-404
  - of essence 378
  - of final cause 407-410
  - of good and evil 349-350
  - of ideas 182-198, 214
  - of incomplete substance 374
  - of individual 382
  - of judgment 182-9
  - of logical being 306
  - of nature 376
  - of nothing 303
  - of physical laws 210-1
  - of principles 199-204
  - of relations 387-8
  - of substance and accident 365-370
- objector 32-8



- obscure idea 52  
 observation 86-7, 401  
 occasion 390, 393-4, 397  
 occult forces 148  
 Ockam 27-8, 29, 272, 395  
 omne agens agit sibi simile 352, 405  
 one 334-7  
   —in many 53  
 ontological  
   —accident 313-7, 325, 362-376  
   —falsity 344-6  
   —order 321, 330, 331, 358  
   —truth 129, 240, 242, 344-6  
 ontologism 308, 321  
 ontology 6, 129, 292-410  
 operations of the mind 48, 83, 219, 273  
 opinion 128, 130, 234, 264, 267-8  
 opposition 67, 70-2  
 order 41, 42, 109, 327, 357-8, 409  
   —of division 103  
   —of execution 407, 410  
   —of intention 407, 410  
 Origen 21  
 Ostwald 365  
  
 Palmieri 257, 366  
 pantheists 310, 335, 364, 373  
 Parmenides 191, 323, 327  
 part 101, 374  
 partial  
   —diversity 54  
   —identity 58, 338  
   —skeptical 134  
 particular  
   —idea 54  
   —proposition 58, 63  
   —term 56  
 passion 288-9  
 passive potency 328, 330  
 passivity 360  
 pattern 394  
 Paulsen 364  
 Pearson K. 210  
 per accidens 147-8  
 percept 165  
 perception 165, 175  
 perfect  
   —abstraction 312  
   —certitude 256-9  
   —evidence 244  
   —foundation 341  
   —induction 206-214  
   —precision 312  
 peripatetic school 8  
 permanent 364, 375  
 per se 147-8, 183  
 perseitas 313  
 person 383-4  
 personal  
   —God 42  
   —identity 337  
   —supposition 58  
   —touch 218  
 personality 336, 383  
 Peter d'Ailly 166  
 Peter the Lombard 24, 27  
 phenomenon 18, 144, 378, 389  
 philosophers 8-18  
 philosophical definition 104  
 philosophy 1-44, 192-3, 252-4, 295, 296, 302, 329, 356, 379, 390, 401  
 photo 151  
 physical  
   —accident 375, 377  
   —cause 393, 404  
   —certitude 230, 256-9, 401  
   —definition 105  
   —distinction 340  
   —essence 379  
   —evil 350  
   —good 349  
   —laws 86, 209  
   —miracle 227-231  
   —order 358  
 physics 4, 9, 19, 94, 181  
 Pius XI 302  
 Pius XII 302  
 place 360  
 plants 359, 379, 382  
 Plato 8, 9, 22, 42, 95, 191, 302, 350, 369, 373  
 pleasurable good 349  
 Plotinus 9, 191  
 poetics 9  
 politics 9  
 polysyllogism 85

- popular definition 105  
 Porphyry 9, 100, 197  
 Port Royal 206  
 positive  
   —change 325  
   —distinction 340  
   —influence 397-9, 409  
   —nothing 300  
 positively immaterial 293  
 positivists 19, 20, 200, 206, 210,  
   211, 246, 379, 388, 398  
 possibility 74, 318  
 possible 66  
 possibles 206, 298, 303, 318-321,  
   339  
 posterior 393  
 post hoc, ergo propter hoc 112  
 postulates 248  
 posture 360  
 potency 23, 298, 322, 327-331  
 potential  
   —being 327  
   —multitude 334  
 practical certitude 130-1, 137,  
   213, 217, 234, 237  
 pragmatism 141, 272  
 Pratt 167  
 precision 312  
 predicables 97-8, 191, 197  
 predicament 98-9, 359  
 predicamental  
   —relation 386, 387-8  
   —tree 99-100  
 predicate 50, 62, 63  
 prejudice 286-7  
 premise 76, 107, 205, 269  
 prerequisite 392, 398  
 primary  
   —analogue 317  
   —modes of being 313-7  
   —qualities 180-1  
   —substance 373, 381  
 primitive  
   —idea 51, 183, 186, 196, 202,  
   214, 299  
   —truth 253-4  
 primum movens 404  
 principal cause 404  
 principiatum 391  
 principium quod, quo 377, 381  
 principle 42, 109-204, 294, 303-5,  
   330-1, 335, 345-6, 377,  
   378, 390, 395-6  
   —of causality 41, 171, 201,  
   266, 318, 401-7  
   —of contradiction 41, 200,  
   201, 254, 262, 266, 303-1,  
   305  
   —of division 102-3  
   —of excluded middle 201, 304  
   —of finality 201  
   —of identity 107, 201, 207,  
   266, 304  
   —of indeterminacy 403  
   —of individuation 336  
   —of least action 395-6  
   —of order 357  
   —of simplicity 395-6  
   —of substance 201  
   —of sufficient reason 107, 166,  
   201, 207, 213, 259, 305,  
   345, 395, 403  
 principles  
   —of becoming 391  
   —of being 391  
   —of knowing 391  
   —of method 204, 395, 396  
   —of reasoning 106-7  
 priority 109, 391, 393, 409  
 privation 153, 300, 303, 352-5,  
   360  
 probability 137, 214, 218, 223,  
   267-8  
 probable  
   —argument 31, 108, 208-9  
   —universal 213  
 processus in infinitum 396  
 proof 31  
 propaganda 285  
 proper  
   —accident 375  
   —activity 377  
   —definition 105  
   —sensibles 172-181  
   —supposition 57  
   —term 56  
 property 86, 98, 105, 206, 310,  
   311, 345, 360, 378  
 proposition 60-8, 127  
 Protagoras 7, 140

## proximate

- end 407
- genus 104
- matter of syllogism 76
- potency 329
- principle 377

## prudent

- doubt 260-6
- opinion 267

Pseudo-Dionysius 350, 353

psychological necessity 200

psychologism vi-vii, 144, 154, 187

psychologists 148, 173, 185, 196, 377

psychology 6, 52, 94, 154, 295

public opinion 284

pura possibilia 321

pure act 329

purely subjective certitude 130, 234, 237, 281

purpose 5, 393, 406-410

Pyrrho 134, 158

Pythagoras 1, 6, 284

## quality

- of being 338, 359, 360, 365, 370, 372, 375
- of proposition 63, 66

## quantity

- of being 62, 336, 338, 360, 372, 375
- of idea 52-4
- of proposition 63, 66
- of term 56

question 30, 107

quiddity 378

quidquid movetur, ab alio movetur 400

quidquid recipitur etc. 405

qui nimium probat etc. 96, 113

ratio 378

## rational

- animal 41
- individual 383-4
- laws 209

rationalism 29

rationalists 191, 228, 261

## real

—assent 266

—being 41, 165-6, 305, 359

—definition 104-6, 107

—dependence 67

—distinction 302, 337, 339-340, 368, 375, 377, 380, 388, 395

—doubt 138, 139, 252

—essence 378

—good 348

—principle 391, 394

—priority 109, 393

—supposition 58

—unity 334

—whole 101

## realism

—exaggerated 191-3

—moderate 194-8

reality—*see* objective validity

reason 205-215, 390, 403

reasoning 47-9, 69-94, 106, 183, 205-215, 273-5

recalling 162

recognition 162-3

reflection 52, 156, 183, 185, 237, 251, 259, 265

## reflex

—certitude 250-5

—universal 54, 58, 97, 193, 194-8, 306, 307

regress 208, 295

regressus in infinitum 396

regularities 93

Reid Th. 241

## relation

—of beings 23, 145, 269, 275, 306, 332, 338, 360, 375, 385-9

—of ideas 54, 61

—of propositions 69-85

—of terms 60

## relative 385

—accident 375

—evil 351

—good 351, 354

—proposition 68

—truth 140, 388-9

relativism 7, 140-5, 272, 388-9

relativists 133, 140-5

- relatum 385  
 religion 6, 11-2, 141, 237, 277-8  
 remote  
   —matter of syllogism 76  
   —potency 329  
 Renan 137, 228, 230  
 respective certitude 131, 234, 237  
 responsibility 43  
 restrictive proposition 64  
 resultant 391  
 retention 162  
 retort 109  
 revelation 3, 21, 23, 127, 220,  
   239, 245, 297, 384  
 right—*see* correct  
 Robespierre 42  
 Robinson D. 32, 210, 270, 272  
 Rosmini 308  
 Rousseau J. J. 16, 112, 383  
 Russell B. 140  
 Rutherford 284  
  
 sacraments 44  
 sample 93  
 Schelling 184  
 Schiller F. C. S. 141, 208  
 scholastic  
   —disputation 21, 32-8  
   —method 22-3, 24  
   —ontology 296-7  
   —philosophy vii-viii, 21-38,  
     44, 322, 328, 336  
   —theology 21, 23, 29  
 Scholastics 2, 3, 11, 21, 23, 24-9,  
   48, 52, 53, 55, 62, 63, 74,  
   97, 100, 141, 143, 146, 150,  
   156, 161, 172, 181, 188,  
   194, 196, 219, 233, 243,  
   247, 253, 257, 262, 263,  
   270, 276, 294, 296, 300,  
   301, 305, 306, 311, 313,  
   314, 322, 324, 325, 326,  
   327, 329, 330, 332, 334,  
   336, 340, 342, 344, 350,  
   359, 360, 365, 367, 370-1,  
   373, 375, 376, 377, 378,  
   381, 382, 383-4, 385, 386,  
   387, 390, 393, 401, 406  
 scholion 31  
 schools, medieval 28-9  
  
 science 4-5, 9, 15, 29, 48, 192,  
   262, 296, 307, 390, 398,  
   401  
 scientia 2, 23, 90, 95, 198  
 scientific  
   —certitude 262  
   —definition 105  
   —explanation 90  
   —judgment 269  
   —logic 69, 75, 207, 252  
   —method 246  
   —observation 87  
   —reasoning 207  
   —testimony 219  
 Scotists 28, 337, 342  
 Scotus 11, 27, 28, 206, 211, 261,  
   311, 314, 337  
 second act 329  
 secondary  
   —analogues 317  
   —cause 403  
   —qualities 178-9  
   —substance 373  
 self—*see* Ego  
 self-control 351  
 self-evident 39, 72, 167, 304  
 self-love 287  
 self-sufficiency 287  
 semiconscious 156  
 sensation 165  
 sense 150, 165-181  
   —cognition 182-9  
   —datum 165  
 sensibles 172-181, 367  
 sensists 183, 379  
 Sentroul 253  
 sicut esse, ita fieri 186  
 Siger of Brabant 140  
 sign 55  
 signs of real distinction 340-1  
 silence, argument from 225-6  
 similarity 36, 307, 338  
 simple  
   —apprehension 51, 186, 273-5  
   —being 333  
   —concept 52, 309, 316  
   —conversion 73, 105  
   —order 357  
   —proposition 64  
   —substance 374

- term 56
- simplex veri iudicium 396
- simplicity 395-6
- sin 350
- singular
  - being 336, 381
  - idea 54
  - proposition 71
  - substance 381
  - term 56
- skepticism 134-9, 142, 305
- skeptics 133, 134-9, 252
- sleep 237
- slogans 288
- sociology 5, 19, 94
- Socrates 7, 95, 323, 327
- sophism 111-3
- sophists 7, 135
- sorites 85
- soul 42, 293
- sound 177-181, 370
- sources of certitude 146-232
- space 173, 175
- special metaphysics 6, 294-5, 359
- species 97-8, 145, 192, 310, 311, 359 360, 370
- specific
  - difference 99, 310, 311, 360
  - distinction 339
  - essence 379
  - property 98
  - substance 368
- speculative philosophy 1-6
- speech 55, 69, 356
- Spencer H. 157, 200, 278
- Spinoza 13-4, 261, 350, 364, 373
- spirit 294, 336
- spiritual 42, 62, 185, 294, 373, 375
- spontaneous conviction 253
- square of opposition 71
- states of the mind 129-131, 267
- static
  - order 357
  - sense 161
- statistical laws 209
- statistics 93-4, 213
- status quaestionis 30
- Suarez 28-9, 55, 156, 196, 302, 321, 337, 375, 388, 395
- Suarezian modes 342, 375
- Suarezians 302, 342
- subaltern opposition 71, 72
- subatomic particles 403
- subconscious 161
- subcontrary opposition 71, 72
- subdivision 101, 103
- subject 53, 147, 160, 301, 309, 355
  - of change 323
  - of inherence 355, 363, 365
  - of proposition 50, 62
  - of relation 385
- subjective
  - certitude 130-1
  - cognition 127, 144-5, 308
  - evidence 240-1, 244
  - forms—*see* Kant
  - idea 51, 192, 308
  - idealism 166-170
  - inference 70, 75
  - judgment 60, 269
  - order 358
  - parts 101
  - potency 328
  - reasoning 69
  - skeptical 134
- subordination of concepts 96
- substance 23, 99, 311-7, 319, 325, 336, 339, 353, 360, 361, 362-384
- substantia et accidens dividunt ens 362, 366
- substantial 362
  - change 325, 376
  - modes 375
  - parts 374, 376
- substitution 323
- subsumption 36-7
- succession 358, 397, 398, 399, 400
- sufficient reason—*see* principle
- supernatural 233, 244, 329, 349, 358
- superordination of concepts 96
- supposition 36, 39-44, 57-9, 70, 112
- suppositum 381
- syllogism 32-8, 69, 75-85, 95, 205-215, 269

- syllogistic form 31  
 symbolic logic 62, 209, 305  
 synthesis 48, 52, 183  
 synthetic principles 199, 202,  
     210, 400  
 system 2, 48, 95-100, 198, 204  
  
 tabula rasa 198  
 Taine H. 200, 365, 398  
 Taylor A. E. 228  
 tendency 213, 329  
 term 50-9, 385, 387-8  
     —middle 76  
 terminus 323, 325, 329  
 testimony 214-231  
 testis unus, testis nullus 217  
 Thales 6  
 theodicy 295  
 theology 6, 21-2, 26, 44, 302, 411  
 theory of cognition 127  
 thesis 21, 30-2, 107, 134  
 Thomas Aquinas 25-6, 28, 30, 31,  
     78, 107, 138, 153, 196, 202,  
     208, 219, 263, 269, 270,  
     282, 302, 336, 351, 366,  
     369, 391  
 Thomists 28, 299, 302, 321, 331,  
     336, 337, 342, 388, 395  
 time 173, 175, 360  
 Tongiorgi 253, 365  
 tradition 225  
 traditional  
     —logic 62, 209  
     —philosophy 29  
 traditionalism 245  
 transcendence of cognition 149-  
     160, 271  
 transcendent 312  
 transcendental  
     —attributes of being 332  
     —idea 99, 311, 312  
     —relation 386  
 Transcendental School 312  
 transient accident 375  
 transition 322-3  
 translation 222, 224  
 Tree of Porphyry 99-100, 191,  
     197, 240, 345-6, 361  
 Trinity 44, 384  
  
 trustworthiness of witnesses  
     215-231  
 truth 40, 78, 127-8, 129, 140,  
     152, 240, 253-4, 269-279,  
     295, 305, 332, 344-6  
 truthfulness 217  
 typical image 185  
  
 ultimate  
     —causes of error 288-9  
     —end 407  
     —foundation of possibles 320-1  
     —individual 382  
     —motive of certitude 234-248  
     —principles 107, 377, 378  
 uncertainty principle 403  
 unchangeable 322  
 unconscious 156, 163  
 undue assumption of axioms 204  
 unicity 333  
 uniformity 338  
     —of nature 206, 211, 401,  
         402-3  
 unintelligibility 344  
 union 333  
 unique 333  
 unit 333  
 unity 295, 316, 332, 333-343  
 universal 93, 97, 185, 190-8, 334,  
     336, 373, 381  
     —concepts 52-4, 97, 101, 311,  
         359  
     —criterion of truth 276-8  
     —doubt 134-9, 252  
     —motive of certitude 239-248  
     —principles 41  
     —proposition 36, 63  
     —skepticism 134-9, 252, 264  
     —supposition 58, 63  
     —term 56  
 univocal  
     —concept 359  
     —term 56, 314-7  
 unlikeness 196-7, 338, 339  
 unlimited regress 396  
 untruth 129  
 unum in multis 53  
 unum per accidens 334  
 unum per se 147, 334, 374  
 useful 348



